

AD-A056 172 NEW MEXICO UNIV. ALBUQUERQUE ERIC H WANG CIVIL ENGINE--ETC F/G 13/2
REFUSE-COLLECTION SCHEDULING FOR SELECTED LOCATIONS. VOLUME III--ETC(U)
NOV 77 H J IUZZOLINO F29601-76-C-0015

UNCLASSIFIED

CERF-EE-16

CEEDO-TR-77-54-VOL-3

NL

1 of 1
AD A056 172



END
DATE
FILED
8-78
DDC

AD No. 1
DDC FILE COPY

AD A 056172



CEEDO



CEEDO-TR-77-54, VOLUME III

A055716-V4

1
2

Refuse-Collection Scheduling For Selected Locations

Volume III: Fairchild Air Force Base, WA

LEVEL III

Harold J Iuzzelino

ERIC H. WANG CIVIL ENGINEERING RESEARCH FACILITY
UNIVERSITY OF NEW MEXICO
BOX 25, UNIVERSITY STATION
ALBUQUERQUE, NEW MEXICO 87131

NOVEMBER 1977

DDC
REF ID: A62116
JUL 13 1978
B
F

FINAL REPORT FOR PERIOD JANUARY 1976-APRIL 1977

Approved for public release; distribution unlimited

**CIVIL AND ENVIRONMENTAL
ENGINEERING DEVELOPMENT OFFICE**
(AIR FORCE SYSTEMS COMMAND)
TYNDALL AIR FORCE BASE
FLORIDA 32403

78 07 00 079

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

19 TR-77-54-VOL-3

REPORT DOCUMENTATION PAGE			READ INSTRUCTIONS BEFORE COMPLETING FORM	
1. REPORT NUMBER ⑧ CEEDO-TR-77-54, Vol. III	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER		
4. TITLE (and Subtitle) ⑥ REFUSE-COLLECTION SCHEDULING FOR SELECTED LOCATIONS, Volume III, Fairchild Air Force Base, Washington			5. TYPE OF REPORT & PERIOD COVERED ⑨ Final Technical Report, Jan 1976 - Apr 1977	
7. AUTHOR(s) ⑩ Harold J. Iuzzolino			6. PERFORMING ORG. REPORT NUMBER ⑪ CERF-EE-16	
9. PERFORMING ORGANIZATION NAME AND ADDRESS Eric H. Wang Civil Engineering Research Facility, University of New Mexico, Box 25, University Station, Albuquerque, NM 87131			10. PROGRAM ELEMENT, PROJECT, TASK & WORK UNIT NUMBERS T.D. 4.03	
11. CONTROLLING OFFICE NAME AND ADDRESS DET 1 (CEEDO) HQ ADTC Air Force Systems Command Tyndall Air Force Base, FL 32403			12. REPORT DATE ⑫ Nov 1977	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) ⑬ 82 pi			13. NUMBER OF PAGES 83	
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.			15. SECURITY CLASS. (of this report) Unclassified	
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) ⑭ B			15a. DECLASSIFICATION/DOWNGRADING SCHEDULE --	
18. SUPPLEMENTARY NOTES Available in DDC				
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Refuse collection Refuse-Collection Scheduling Program Vehicle scheduling Computer-generated maps Approximation of street shapes				
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report presents maps and schedules produced by the Air Force Refuse-Collection Scheduling Program for residential refuse collection at Fairchild Air Force Base, Washington. The data required for scheduling are discussed briefly. The computer-generated schedule reduced the number of trips from 10 to 8 and the total mileage from 272.6 to 264.4 miles.				
400 976			JUL 13 1978	

PREFACE

This report documents work performed during the period January 1976 through April 1977 by the University of New Mexico under contract F29601-76-C-0015 with DET 1 (CEEDO) HQ ADTC, Air Force Systems Command, Tyndall Air Force Base, Florida 32403. Capt. Robert F. Olfenbuttel managed the program.

This report has been reviewed by the Information Officer and is releasable to the National Technical Information Service (NTIS). At NTIS it will be available to the general public, including foreign nations.

This technical report has been reviewed and is approved for publication.

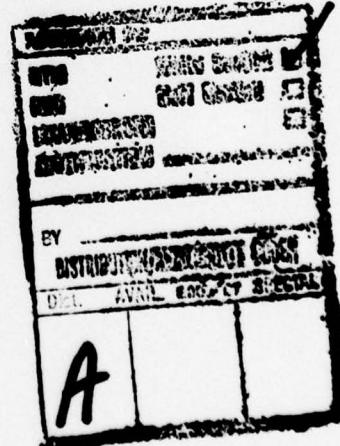
Robert F. Olfenbuttel
ROBERT F. OLFENBUTTEL, Capt, USAF
Chief, Resources Conservation Br

EMIL C. FREIN, Maj, USAF
Chief, Env Engr & Energy Research
Division

PETER A. CROWLEY, Maj, USAF, BSC
Director of Environics

2. 18

JOSEPH S. PIZZUTO, Col, USAF, BSC
Commander



78 07 00 079

TABLE OF CONTENTS

Section	Title	Page
I	INTRODUCTION	1
II	DATA REQUIREMENTS	3
III	EVALUATION OF COMPUTER-GENERATED SCHEDULE	7
IV	IMPLEMENTATION REQUIREMENTS	9
APPENDIX A	ORIGINAL ROUTE SCHEDULE	11
APPENDIX B	ORIGINAL ROUTE MAPS	25
APPENDIX C	RCINPT DATA	39
APPENDIX D	PHASE4 DATA FOR ORIGINAL ROUTES	47
APPENDIX E	PHASE4 DATA FOR RCSP ROUTES	53
APPENDIX F	RCSP SCHEDULE	61
APPENDIX G	RCSP ROUTE MAPS	73

SECTION I INTRODUCTION

BACKGROUND

From 1973 through 1975, a study was conducted at the Civil Engineering Research Facility (CERF) to evaluate the usefulness of the IBM Vehicle Scheduling Program for scheduling refuse collection at Air Force bases. This study indicated that reductions in manpower and total mileage of up to 20 percent could be obtained in some cases. The large amount of human effort required to put the routes produced by the IBM program in a useable form led to the development of the CERF Refuse-Collection Scheduling Program (RCSP). This program produces a printed schedule and maps that can be used, without modification, by the driver of the collection vehicle or in reports.

OBJECTIVE

The objective of this report was to use RCSP to determine optimum refuse-collection schedules for four Air Force bases. These test bases provide enough variety in refuse-scheduling problems to allow a determination of the program's range of applicability and, ultimately, an evaluation of its potential for use on all Air Force bases.

SCOPE

This report presents the results obtained when RCSP was used to schedule refuse collection at Fairchild Air Force Base, Washington. The data required for scheduling are described briefly. The original and new schedules are compared. Since the new schedule requires only eight collection trips, while the original required ten, a procedure for verifying and implementing the new schedule is given. The original and the computer-generated routes are presented on maps and as printed schedules.

SECTION II DATA REQUIREMENTS

The data available for Fairchild Air Force Base include six maps. One map shows the area surrounding the base with the locations of Geiger Heights and Geiger Base marked. Two other maps show enlargements of on-base housing areas, while the remaining maps show enlargements of Geiger Heights and Geiger Base. The original routes within the housing areas are marked on the maps.

In addition to the maps, the following information was provided:

1. unloading time at the landfill is 15 minutes,
2. the speed limit on base is 30 miles per hour outside of housing areas and 15 miles per hour in housing areas,
3. a 10-cubic-yard vehicle services 70 houses,
4. the collection vehicle travels at 5 miles per hour in the housing areas while collecting refuse,
5. the vehicle stops for 1 minute per house, and
6. the vehicle averages 45 miles per hour between off-base housing areas and traveling to the landfill.

Ten routes were indicated on the maps. To obtain computer-generated maps and a schedule for these original routes, information describing the routes was used as input to program PHASE4. The schedule and maps thus obtained are presented in Appendixes A and B. On the first page of material in Appendix A, the sections correspond to the final trips. The section numbers on that page can be found on the route summary on the second page, in the column marked SECTION(S). Thus, section 5 is serviced by trip 1 of route 3. The section numbers are useful to the person running RCSP, but not to the vehicle drivers, so only the pages including and following the route summary would go to operational personnel.

The page of output preceding the route summary in Appendix A indicates that 196 families are serviced by the trip to section 5. This information conflicts with the information that accompanied the maps (one vehicle services only 70 houses), so the smaller number was not used. The original routes showed two trips on Cedar Street between Palm Drive and South Maple Street,

with no indication as to which trip collected the six households on that portion of Cedar Street. If these households are collected by the trip corresponding to route 3, trip 2, instead of route 3, trip 1, then the largest capacity trip services 194 households. If each of the two trip collects one side of Cedar Street, the largest capacity trip would service 193 households. Although the latter is unlikely to be the case, the vehicle capacity was set at 193 households for safety's sake.

RCSP consists of four computer programs: the data-checking program (RCINPT), the section-assignment program (PHASE2), the route-traversing program (PHASE3), and the route-map- and schedule-generating program (PHASE4).

The RCINPT data consist of six records: street names, size of output maps, and four descriptions of input maps. The third record describes the streets connecting Fairchild Air Force Base to Geiger Heights and Geiger Base, without any details of the housing areas. The actual data cards are listed in Appendix C.

Data for PHASE2 consist of only five cards: a title card, the vehicle-capacity card, the time-limits card, and two output-map size cards. These data cards are as follows:

FAIRCHILD AFB
193.

.5		15.	4.				
.8	2.8	10.	3.5	5.5	10.	10.	
8.	10.	10.	1.	5.	20.	10.	

The required input data to PHASE3 consist of only two cards: a title card and a card giving the node numbers assigned to the landfill and the garage. Twenty-one optional cards were added, each reassigning a street segment to another section. These data cards are as follows:

FAIRCHILD AFB, WA
1800 726
22 6
34 6
35 5

51	7
52	7
56	7
75	6
57	8
43	8
62	8
61	8
49	8
66	4
64	5
102	3
113	3
116	2
117	2
137	3
139	2
188	1

Segments 34, 116, 117, and 139 were reassigned because the close approximation of street shapes had caused segments of a single street to be assigned to different collection trips. If a coarser shape approximation had been used, these streets would have been shown as single segments, and the problem would not have arisen. The reassignment eliminated the need to use two trucks to service a single street. Segments 22, 102, 113, and 188 were reassigned because they were somewhat remote from the other segments in their sections. The remaining reassessments were made to keep the loads in each trip from exceeding the vehicle capacity. Because each trip comes very close to filling a vehicle, it was often necessary to reassign several segments to remove an overflow condition caused by the reassignment of a single segment.

The three data records for PHASE4 are listed in Appendix D for the original routes and Appendix E for the RCSP routes. The first record consists of a title card, a card giving the unit of refuse measurement, two time-limits cards, and a vehicle-identification card. The third record consists of cards describing the paths in each of the routes. For the final routes, this information normally is passed from program PHASE3 to PHASE4 on disk or tape,

but since a minor change was desired in the final routes, the data were punched onto cards, modified, and included as card input to program PHASE4. The minor change involved replacing travel along Harder Place and Wortman Drive in RCSP route 4, trip 2, by an equally long but more direct route along Malstrom Drive.

SECTION III

EVALUATION OF COMPUTER-GENERATED SCHEDULE

The original refuse-collection schedule for Fairchild Air Force Base required 10 trips to service all of the houses. The total mileage for the 10 trips, as estimated by PHASE4, is 272.6 miles. The computer-generated schedule requires only eight trips and covers a total distance of 264.4 miles. Thus, the computer-generated schedule decreases mileage by 3 percent and number of trips by 20 percent. The computer-generated schedule is given in Appendix F, and the corresponding maps are presented in Appendix G.

SECTION IV IMPLEMENTATION REQUIREMENTS

RCSP assumes that any two vehicles of the same capacity could service the same number of households. Therefore, the two most important preliminary verifications are that 1) the maximum number of households serviced on one trip has been correctly determined and 2) the vehicle involved is almost always capable of completing its route without overfilling. For Fairchild Air Force Base, the heaviest collection trip is labeled ROUTE3, TRIP1 in the original route summary in Appendix A. The vehicle involved was found capable of servicing 196 households. In the routes produced by RCSP, the longest trip services 192 households, so it need only be verified that at least 192 households are serviced by what is currently the largest-capacity trip. If 196 households are actually serviced, there should be no problem with the vehicle overfilling. If none of the current trips service at least 192 households, corrected route information should be sent to the Civil and Environmental Engineering Development Office so the capacity can be determined accurately and the program rerun. If the trip described as ROUTE3, TRIP1 does service approximately 196 households, then the new schedule in Appendix F and the maps in Appendix G will be suitable for implementation.

If the scheduling is under Air Force control, the new maps and schedules can be given to the person in charge of scheduling. If a contractor is responsible for scheduling and refuse collection, the new maps and schedules may be given to him; the savings in mileage and number of trips should provide incentive for implementation. When the refuse collection contract goes out for open bidding, distribution of the computer-generated schedule may produce lower cost estimates.

APPENDIX A

ORIGINAL ROUTE SCHEDULE

SECTION	TRIP	DISTANCE (MILES)	TIME (MINUTES)	HOUSEHOLDS	CAPACITY (HOUSEHOLDS)	LOAD
1	1	18.9	114.3	159	193.0	159.0
2	1	18.9	99.9	125	193.0	125.0
3	1	19.1	113.3	147	193.0	147.0
4	1	19.1	78.6	84	193.0	84.0
5	1	16.0	139.2	196	193.0	196.0
6	1	19.0	138.1	188	193.0	188.0
7	1	22.2	124.8	143	193.0	143.0
8	1	20.1	121.8	160	193.0	160.0
9	1	19.0	126.0	156	193.0	156.0
10	1	18.0	113.8	146	193.0	146.0

FINAL ROUTE SUMMARY

FAIRCHILD AFB

ROUTE	VEHICLE IDENTIFICATION	VEHICLE CAPACITY (HOUSEHOLDS)	SECTION(S) TRIP1 TRIP2	DISTANCE (MILES)	TIME (HR:MIN)	HOUSEHOLDS SERVICED (HOUSEHOLDS)	REFUSE QUANTITY (HOUSEHOLDS)
1	10 CU YD VEHICLE	193.0	1	2	53.9	4:20	204
2	10 CU YD VEHICLE	193.0	3	4	56.2	3:54	231
3	10 CU YD VEHICLE	193.0	5	6	53.1	5:19	364
4	10 CU YD VEHICLE	193.0	7	8	58.4	4:46	303
5	10 CU YD VEHICLE	193.0	9	10	53.0	4:42	302
	TOTALS	272.6	=====	=====	=====	1504	1504

ACTION	SPEED (MPH)	TIME (HR:MIN)	DISTANCE (MILES)	HOUSEHOLDS SERVICED	LOAD (PCT)
DRIVE ON COLORADO AVE	15	11:21	*1	61	
PICK UP ON BOTH SIDES COLORADO AVE		11:25	*1	6	
DRIVE ON PENNSYLVANIA ST		11:25		64	
DRIVE ON MAINE AVE		11:25		64	
DRIVE ON OFFUTT DR		11:26		64	
DRIVE ON HOSPITAL DR		11:26		64	
DRIVE ON MARCH ST		11:26		64	
DRIVE ON FAIRCHILD ST		11:27		64	
DRIVE ON MITCHELL ST		11:28		64	
DRIVE ON SUNSET HIGHWAY		11:29		64	
DRIVE ON SUNSET HIGHWAY	55	11:35	5.9	64	
DRIVE ON HALLET ROAD	45	11:39	3.2	64	
DRIVE ON HENRY ROAD	45	11:41	1.0	64	
DRIVE ON SPOKANE ROAD	40	11:44	2.9	64	
DRIVE ON SPOKANE ROAD	40	11:46	3.0	64	
UNLOAD		11:46 TO 11:58			
DRIVE ON SPOKANE ROAD	40	12:03 TO 12:33	3.0		
BREAK FOR LUNCH		12:03 TO 12:33			
DRIVE ON HENRY ROAD	40	12:36	2.0		
DRIVE ON HALLET ROAD	45	12:37	1.0		
DRIVE ON SUNSET HIGHWAY	45	12:41	3.2		
DRIVE ON SUNSET HIGHWAY	55	12:48	5.9		
DRIVE ON MITCHELL ST	30	12:48	*1		
DRIVE ON FAIRCHILD ST	30	12:49	*5		
DRIVE ON 5TH AVE	30	12:50	*3		
DRIVE ON 5TH AVE					

FAIRCHILD AFB ROUTE 2

10 CU YD VEHICLE

10 CU YD VEHICLE	SPEED (MPH)	TIME (HR:MIN)	DISTANCE (MILES)	HOUSEHOLDS SERVICED	LOAD (PCT)
------------------	----------------	------------------	---------------------	------------------------	---------------

ACTION	SPEED (MPH)	TIME (HR:MIN)	DISTANCE (MILES)	HOUSEHOLDS SERVICED	LOAD (PCT)
DRIVE ON	15	10:59	.2		4.3
DRIVE ON	15	11:00	.2		4.3
DRIVE ON	30	11:02	.9		4.3
DRIVE ON	30	11:02	.3		4.3
DRIVE ON	30	11:03	.1		4.3
DRIVE ON	55	11:09	5.9		4.3
DRIVE ON	45	11:13	3.2		4.3
DRIVE ON	45	11:15	1.0		4.3
DRIVE ON	40	11:16	2.0		4.3
DRIVE ON	40	11:22	3.0		4.3
UNLOAD	11:22	10	11:32		
DRIVE ON	40	11:37	3.0		
DRIVE ON	40	11:40	2.0		
DRIVE ON	45	11:41	1.9		
DRIVE ON	45	11:45	3.2		
DRIVE ON	55	11:52	5.9		
DRIVE ON	50	11:52	.1		
DRIVE ON	30	11:53	.5		
DRIVE ON	50	11:54	.3		

ROUTE 3 FAIRCHILD AFB

10 CU YD VEHICLE

ROUTE	ACTION	TIME (HRRMIN)	SPEED (MPH)	TIME (MILES)	DISTANCE (MILES)	HOUSEHOLDS SERVICED	LOAD (PCT)
	LEAVE GARAGE	08:00	30	08:01	.3		
	DRIVE ON 5TH AVE	08:01	30	08:02	.5		
	DRIVE ON FAIRCHILD ST	08:02	30	08:02	.1		
	DRIVE ON MITCHELL ST	08:02	30	08:02	.1		
	PICK UP ON BOTH SIDES POPLAR AVE	08:04	5	08:04	.0	3	1
	PICK UP ON BOTH SIDES N MAPLE ST	08:13	5	08:13	.1	16	9
	PICK UP ON BOTH SIDES	08:17	5	08:17	.0	6	12
	DRIVE ON	08:17	15	08:17	.0	12	
	PICK UP ON BOTH SIDES N MAPLE ST	08:29	5	08:29	.1	21	23
	PICK LP ON BOTH SIDES N MAPLE ST	08:35	5	08:35	.1	10	29
	PICK LP ON BOTH SIDES N MAPLE ST	08:39	5	08:39	.1	7	32
	PICK LP ON BOTH SIDES N MAPLE ST	08:43	5	08:43	.1	7	36
	PICK LP ON BOTH SIDES N MAPLE ST	08:44	5	08:44	.0	2	37
	PICK LP ON BOTH SIDES ELM ST	08:48	5	08:48	.1	7	40
	PICK LP ON BOTH SIDES ELM ST	09:02	5	09:02	.1	25	53
	PICK LP ON BOTH SIDES ELM ST	09:11	5	09:11	.1	14	61
	PICK LP ON BOTH SIDES ELM ST	09:14	5	09:14	.1	5	63
	PICK LP ON BOTH SIDES ELM ST	09:18	5	09:18	.1	6	66
	PICK LP ON BOTH SIDES ELM ST	09:27	5	09:27	.1	16	75
	PICK LP ON BOTH SIDES ELM ST	09:29	5	09:29	.1	2	76
	DRIVE ON 5TH AVE	09:29	15	09:29	.1	1	
	PICK UP ON BOTH SIDES S MAPLE ST	09:32	5	09:32	.1	5	76
	PICK UP ON BOTH SIDES S MAPLE ST	09:36	5	09:36	.1	6	81
	PICK UP ON BOTH SIDES CEDAR ST	09:42	5	09:42	.1	10	87
	PICK UP ON BOTH SIDES CEDAR ST	09:55	5	09:55	.2	24	99
	PICK UP ON BOTH SIDES CEDAR ST	09:58	5	09:58	.1	4	101
	PICK UP ON BOTH SIDES CEDAR ST	10:01	15	10:01	.3		
	PICK UP ON BOTH SIDES CEDAR ST	10:09	15	10:09	.0		
	PICK UP ON BOTH SIDES CEDAR ST	10:12	15	10:12	.1		
	PICK UP ON BOTH SIDES CEDAR ST	10:15	10	10:15	2.0		
	PICK UP ON BOTH SIDES CEDAR ST	10:19	3.0	10:19	3.0		
18	DRIVE ON SUNSET HIGHWAY	10:19	45	10:10	3.2		
	DRIVE ON SUNSET HIGHWAY	10:06	55	10:06	5.9		
	DRIVE ON SUNSET HIGHWAY	10:10	45	10:10	3.2		
	DRIVE ON HALET ROAD	10:12	45	10:12	1.0		
	DRIVE ON HALET ROAD	10:15	40	10:15	2.0		
	DRIVE ON HENRY ROAD	10:15	40	10:15	2.0		
	DRIVE ON HENRY ROAD	10:19	40	10:19	3.0		
	DRIVE ON SPOKANE ROAD	10:19	40	10:19	3.0		
	DRIVE ON SPOKANE ROAD	10:19	40	10:19	3.0		
	UNLOAD LAND FILL	10:19	30	10:29	10:29		
	DRIVE ON 5TH AVE	10:30	30	10:30	.3		
	DRIVE ON FAIRCHILD ST	10:31	30	10:31	.5		
	DRIVE ON MITCHELL ST	10:31	30	10:31	.1		
	DRIVE ON POPLAR AVE	10:31	15	10:31	.0		
	DRIVE ON S MAPLE ST	10:32	15	10:32	.3		
	DRIVE ON N MAPLE ST	10:32	15	10:32	.1		
	DRIVE ON CEDAR ST	10:32	15	10:32	.1		
	DRIVE ON CEDAR ST	10:37	5	10:37	.1	8	4
	PICK LP ON BOTH SIDES PALM OR	10:42	5	10:42	.0	9	6
	PICK LP ON BOTH SIDES PALM OR	10:46	5	10:46	.1	6	11
	PICK LP ON BOTH SIDES PALM OR	10:51	5	10:51	.1	6	16
	PICK LP ON BOTH SIDES PALM OR	10:55	5	10:55	.1	8	20
	PICK LP ON BOTH SIDES PALM OR	10:58	5	10:58	.0	4	22

ACTION	SPEED (MPH)	TIME (HRS:MIN)	DISTANCE (MILES)	HOUSEHOLDS SERVICED	LOAD (PCT)
DRIVE ON CEDAR ST	15	10:58	.1		22
PICK UP ON BOTH SIDES S MAPLE ST	5	11:07	.1	16	30
PICK UP ON BOTH SIDES S MAPLE ST	5	11:17	.1	17	39
PICK UP ON BOTH SIDES POPLAR AVE	5	11:29	.1	2	48
PICK UP ON BOTH SIDES POPLAR AVE	5	11:29	.1	2	40
DRIVE ON PALM DR	15	11:20	.2		40
DRIVE ON CEDAR ST	15	11:20	.1		40
DRIVE ON N MAPLE ST	15	11:20	.1		40
DRIVE ON PINE ST	15	11:20	.1		40
PICK UP ON BOTH SIDES PINE ST	5	11:27	.1	12	46
PICK UP ON BOTH SIDES PINE ST	5	11:44	.2	30	62
DRIVE ON ELM ST	15	11:45	.1		62
PICK UP ON BOTH SIDES OAK ST	5	11:49	.1	7	65
PICK UP ON BOTH SIDES SYCAMORE ST	5	11:55	.1	10	70
PICK UP ON BOTH SIDES SYCAMORE ST	5	12:08	.1	23	82
BREAK FOR LUNCH		12:08 TO 12:36			
DRIVE ON N MAPLE ST	15	12:38	.1		62
PICK UP ON BOTH SIDES OAK ST	5	12:55	.2	26	97
DRIVE ON SYCAMORE ST	15	12:55	.2		97
DRIVE ON N MAPLE ST	15	12:57	.4		97
DRIVE ON POPLAR AVE	15	12:57	.0		97
DRIVE ON MITCHELL ST	15	12:57	.0		97
DRIVE ON SUNSET HIGHWAY	30	12:58	.2		97
DRIVE ON SUNSET HIGHWAY	55	13:04	5.9		97
DRIVE ON HALLET ROAD	45	13:08	3.2		97
DRIVE ON HENRY ROAD	45	13:10	1.0		97
DRIVE ON SPOKANE ROAD	40	13:13	2.0		97
DRIVE ON LAND FILL	40	13:17	3.0		97
UNLOAD		13:17 TO 13:27			
DRIVE ON SPOKANE ROAD	40	13:32	3.0		
DRIVE ON HENRY ROAD	40	13:35	2.0		
DRIVE ON HALLET ROAD	45	13:36	1.0		
DRIVE ON SUNSET HIGHWAY	45	13:40	3.2		
DRIVE ON MITCHELL ST	55	13:47	5.9		
DRIVE ON FAIRCHILD ST	30	13:47	.1		
DRIVE ON 5TH AVE	30	13:48	.5		
DRIVE ON 5TH AVE	30	13:49	.3		

ROUTE 4 FAIRCHILD AFB

10 CU YD VEHICLE

ROUTE	ACTION	SPEED (MPH)	TIME (HRS:MIN)	DISTANCE (MILES)	HOUSEHOLDS SERVICED (PCII)	LOAD (CU YD)
	LEAVE GARAGE	30	08:00	3		
	DRIVE ON 5TH AVE	30	08:01			
	FAIRCHILD ST	30	08:01			
	9TH AVE	15	08:03			
	DRIVE ON ELM ST	15	08:04			
	DRIVE ON OAK ST	15	08:04			
	DRIVE ON LINDEN ST	15	08:04			
	DRIVE ON S MAPLE ST	5	08:14			
	PICK UP ON 60TH SIDES OAK ST	5	08:14			
	PICK UP ON BOTH SIDES OAK ST	5	08:15			
	PICK UP ON BOTH SIDES OAK ST	5	08:15			
	PICK UP ON BOTH SIDES 9TH AVE	5	08:17			
	PICK UP ON BOTH SIDES 9TH AVE	15	08:18			
	PICK UP ON BOTH SIDES 9TH AVE	15	08:23			
	PICK UP ON BOTH SIDES LINDEN ST	5	08:26			
	PICK UP ON BOTH SIDES LINDEN ST	5	08:40			
	PICK UP ON BOTH SIDES LINDEN ST	5	08:46			
	DRIVE ON OAK ST	5	08:47			
	DRIVE ON S MAPLE ST	15	08:47			
	PICK UP ON BOTH SIDES S MAPLE ST	5	08:50			
	PICK UP ON BOTH SIDES S MAPLE ST	5	08:54			
	DRIVE ON S MAPLE ST	5	08:54			
	PICK UP ON BOTH SIDES WALNUT ST	5	08:54			
	PICK UP ON BOTH SIDES WALNUT ST	5	08:54			
	DRIVE ON WALNUT ST	15	09:02			
	DRIVE ON S MAPLE ST	15	09:02			
	DRIVE ON OAK ST	15	09:03			
	DRIVE ON ELM ST	15	09:03			
	PICK UP ON BOTH SIDES ELM ST	5	09:06			
	PICK UP ON BONG ST	5	09:06			
	DRIVE ON BONG ST	5	09:06			
	DRIVE ON 6TH AVE	30	09:06			
	DRIVE ON CASTLE ST	30	09:07			
	DRIVE ON CASTLE ST	30	09:08			
	DRIVE ON MAINE AVE	30	09:08			
	DRIVE ON MAINE AVE	30	09:08			
	DRIVE ON GRAHAM RD	15	09:10			
	PICK UP ON 43RD ST	30	09:10			
	PICK UP ON 43RD ST	5	09:12			
	DRIVE ON 43RD ST	5	09:12			
	DRIVE ON ARTILLERY CIRCLE	5	09:12			
	PICK UP ON BOTH SIDES ARTILLERY CIRCLE	5	09:16			
	PICK UP ON BOTH SIDES ARTILLERY CIRCLE	5	09:19			
	PICK UP ON BOTH SIDES 43RD ST	5	09:23			
	PICK UP ON BOTH SIDES 43RD ST	15	09:24			
	PICK UP ON BOTH SIDES 43RD ST	5	09:25			
	PICK UP ON BOTH SIDES FIRST ST	5	09:25			
	PICK UP ON BOTH SIDES FIRST ST	5	09:41			
	DRIVE ON GRAHAM RD	30	09:41			
	DRIVE ON MAINE AVE	15	09:42			
	DRIVE ON MAINE AVE	30	09:43			
	DRIVE ON CASTLE ST	30	09:44			
	DRIVE ON FAIRCHILD ST	30	09:45			
	DRIVE ON MITCHELL ST	30	09:45			
	DRIVE ON SUNSET HIGHWAY	30	09:45			
	DRIVE ON SUNSET HIGHWAY	55	09:52			
	DRIVE ON HALLET ROAD	45	09:56			
	DRIVE ON HENRY ROAD	45	09:57			
	DRIVE ON SPOKANE ROAD	40	10:00			
	DRIVE ON LAND FILL	40	10:05			
	UNLOAD					

ACTION	TIME (H:M:S)	SPEED (MPH)	DISTANCE (MILES)	HOUSEHOLDS SERVICED	LOAD (PCT)
LEAVE LAND FILL					
DRIVE ON 5TH AVE	10:15	30	10815	.3	
FAIRCHILD ST		30	10816	.3	
MARCH ST		30	10816	.3	
DRIVE ON OFFUTT DR		30	10816	.3	
DRIVE ON GRAHAM RD		30	10817	.5	
PICK LP ON BOTH SIDES UTAH OR NORTH		30	10818	.2	
PICK LP ON BOTH SIDES UTAH OR NORTH		5	10819	.0	
PICK LP ON BOTH SIDES OREGON OR		5	10820	.1	
PICK LP ON BOTH SIDES OREGON OR		5	10840	.2	
DRIVE ON UTAH OR NORTH		5	10841	.0	
PICK LP ON BOTH SIDES UTAH OR NORTH		15	10842	.1	
PICK LP ON BOTH SIDES UTAH OR NORTH		5	10845	.0	
PICK LP ON BOTH SIDES UTAH OR WEST		5	10851	.0	
PICK LP ON BOTH SIDES UTAH OR WEST		5	10854	.0	
PICK LP ON BOTH SIDES IOWA ST		5	11008	.2	
DRIVE ON IDAHO ST		5	11008	.1	
PICK LP ON BOTH SIDES NEVADA ST		15	11024	.2	
DRIVE ON UTAH OR WEST		5	11024	.0	
PICK LP ON BOTH SIDES IOWA ST		5	11031	.1	
PICK LP ON BOTH SIDES IOWA ST		5	11043	.1	
PICK LP ON BOTH SIDES UTAH OR SOUTH		5	11044	.0	
PICK LP ON BOTH SIDES UTAH OR SOUTH		15	11044	.0	
PICK LP ON BOTH SIDES IDAHO ST		5	11046	.1	
PICK LP ON BOTH SIDES IDAHO ST		5	11050	.1	
PICK LP ON BOTH SIDES IDAHO ST		5	11054	.1	
DRIVE ON UTAH OR NORTH		15	11054	.0	
PICK LP ON BOTH SIDES GRAHAM RD		30	11056	.0	
DRIVE ON SUNSET HIGHWAY		55	12003	7.0	
DRIVE ON SUNSET HIGHWAY		40	12047	3.0	
BREAK FOR LUNCH					
DRIVE ON HALLET ROAD	12:03	45	12138	3.2	
DRIVE ON HENRY ROAD		45	12139	1.0	
DRIVE ON SPOKANE ROAD		40	12142	2.0	
DRIVE ON LAND FILL		40	12147	6.2	
UNLOAD					
DRIVE ON SPOKANE ROAD	12:47	40	13001	3.0	
DRIVE ON HENRY ROAD		40	13004	2.0	
DRIVE ON HALLET ROAD		45	13005	1.0	
DRIVE ON SUNSET HIGHWAY		45	13010	3.2	
DRIVE ON MITCHELL ST		55	13016	5.9	
DRIVE ON FAIRCHILD ST		30	13016	.1	
DRIVE ON 5TH AVE		30	13017	.5	
DRIVE ON GARAGE		30	13018	.3	

ROUTE 5 FAIRCHILD AFB

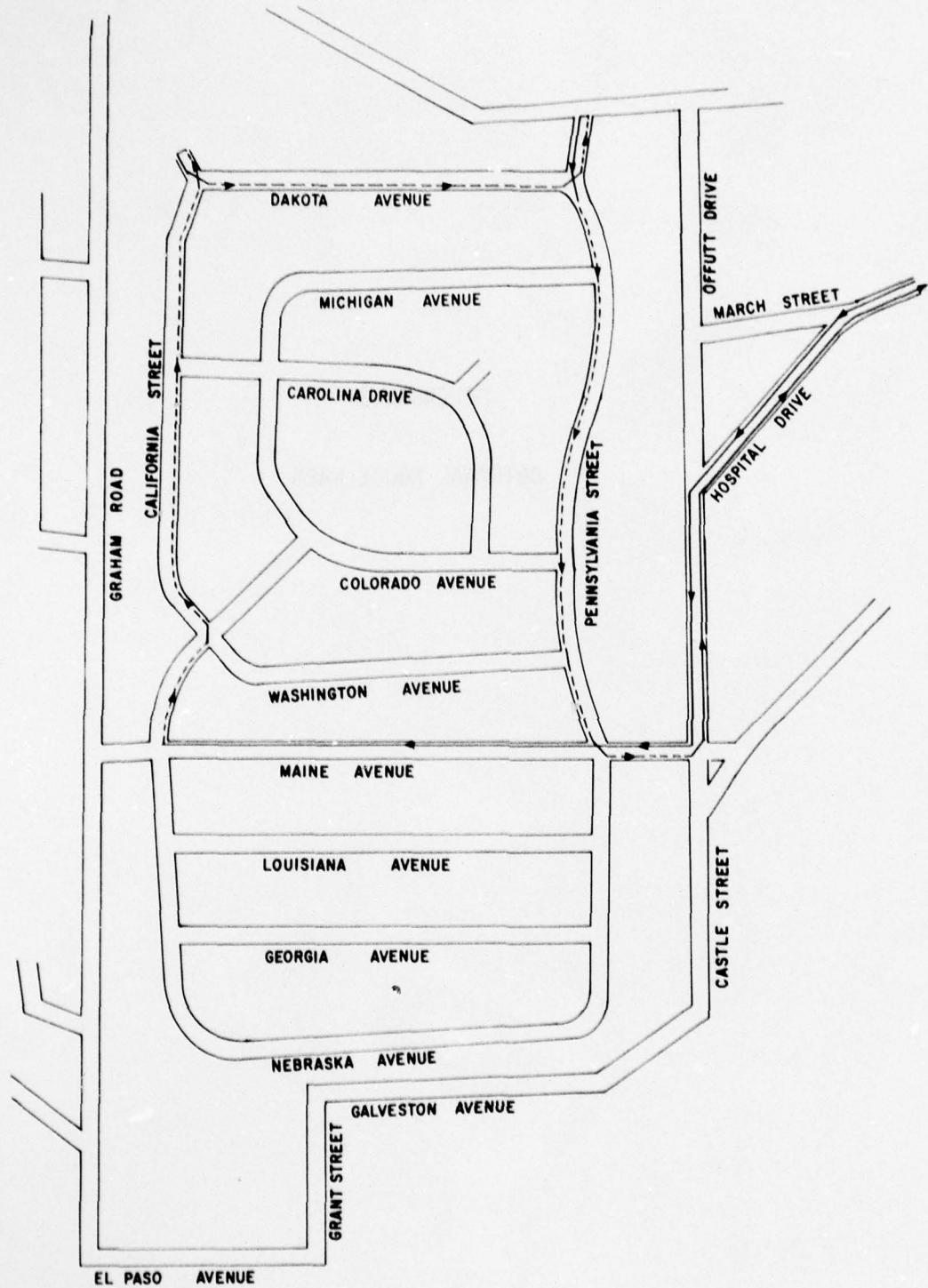
10 CU YD VEHICLE

ACTION	TIME	VEHICLE	SPEED (MPH)	TIME (HR:MIN)	DISTANCE (MILES)	HOUSEHOLDS SERVICED	LOAD (PCT)
LEAVE GARAGE							
DRIVE ON 5TH AVE	8:00	TO FAIRCHILD ST	30	8:01	.3		
FAIRCHILD ST		TO MITCHELL ST	30	8:02	.5		
MITCHELL ST		TO SUNSET HIGHWAY	30	8:02	.1		
SUNSET HIGHWAY		TO MCCROY AVENUE	55	8:06	5.9		
DRIVE ON MCCROY AVENUE		TO FRIES STREET	45	8:10	1.4		
DRIVE ON MCCROY AVENUE		TO COMMANDERS DRIVE	15	8:11	.1		
DRIVE ON COMMANDERS DRIVE		TO	5	8:14	.1	12	6
DRIVE ON		TO	15	8:16	.0	6	6
PICK UP ON EOTH SIDES		TO	15	8:19	.0	6	6
PICK LP ON		TO	5	8:20	.0	2	7
PICK LP ON		TO	5	8:21	.0	1	7
PICK LP ON		TO	5	8:22	.0	1	6
PICK LP ON		TO	15	8:22	.0	6	6
PICK LP ON EOTH SIDES		TO COMMANDERS DRIVE	5	8:23	.0	2	9
PICK LP ON EOTH SIDES		TO	5	8:27	.1	6	12
PICK LP ON EOTH SIDES		TO	5	8:32	.1	7	16
DRIVE ON		TO COMMANDERS DRIVE	15	8:32	.1	6	16
PICK LP ON EOTH SIDES		TO	5	8:34	.0	3	17
PICK LP ON EOTH SIDES		TO	5	8:36	.1	2	18
DRIVE ON		TO	15	8:36	.1	18	18
PICK UP ON EOTH SIDES		TO BUSH STREET	15	8:36	.1	18	18
DRIVE ON		TO JORDAN AVENUE	15	8:36	.1	20	29
PICK UP ON EOTH SIDES		TO FRIES STREET	5	8:48	.1	20	29
DRIVE ON		TO DEL VECCHIO AVENUE	15	8:48	.1	29	29
PICK LP ON EOTH SIDES		TO	5	8:53	.1	6	33
PICK LP ON EOTH SIDES		TO COMMANDERS DRIVE	5	8:59	.1	20	33
DRIVE ON		TO	15	8:59	.1	38	38
PICK LP ON EOTH SIDES		TO FRIES STREET	15	9:00	.1	36	36
DRIVE ON		TO MCCROY AVENUE	15	9:00	.1	36	36
PICK LP ON EOTH SIDES		TO	15	9:03	1.0	36	36
DRIVE ON		TO HAMLET ROAD	45	9:04	1.0	36	36
PICK UP ON EOTH SIDES		TO HENRY ROAD	40	9:04	0.0	36	36
PICK LP ON		TO ARMSTRONG DRIVE	5	9:06	.1	2	39
PICK LP ON EOTH SIDES		TO FANAZICK DRIVE	5	9:10	.1	6	43
PICK LP ON EOTH SIDES		TO JOHN GAY DRIVE	5	9:24	.2	22	54
PICK LP ON EOTH SIDES		TO EICHENBURGER PLACE	5	9:27	.1	4	56
PICK LP ON EOTH SIDES		TO WORTMAN PLACE	5	9:29	.0	3	58
PICK LP ON EOTH SIDES		TO MALSTROM DRIVE	5	9:33	.1	5	61
DRIVE ON		TO HARDER PLACE	15	9:33	.1	61	61
PICK LP ON EOTH SIDES		TO WORTMAN PLACE	5	9:41	.1	14	68
PICK LP ON EOTH SIDES		TO EICHENBURGER PLACE	5	9:45	.1	5	70
DRIVE ON		TO HARDER PLACE	15	9:45	.1	7	74
PICK LP ON EOTH SIDES		TO MALSTROM DRIVE	5	9:50	.1	6	77
PICK LP ON EOTH SIDES		TO JOHN GAY DRIVE	5	9:54	.1	3	79
PICK LP ON EOTH SIDES		TO SMITH DRIVE	5	9:55	.0	3	80
PICK LP ON EOTH SIDES		TO ARMSTRONG DRIVE	5	9:58	.0	3	80
DRIVE ON		TO JOHN GAY DRIVE	15	9:59	.3	60	60
DRIVE ON		TO SPOKANE ROAD	40	10:01	1.4	60	60

ACTION	DRIVE ON	5TH AVE	TO GARAGE	SPEED (MPH)	TIME (HR/PIN)	DISTANCE (MILES)	HOUSEHOLDS SERVICED	LOAD (PCT)
				30	13011	.3		

APPENDIX B

ORIGINAL ROUTE MAPS



FAIRCHILD AFB, WASH.

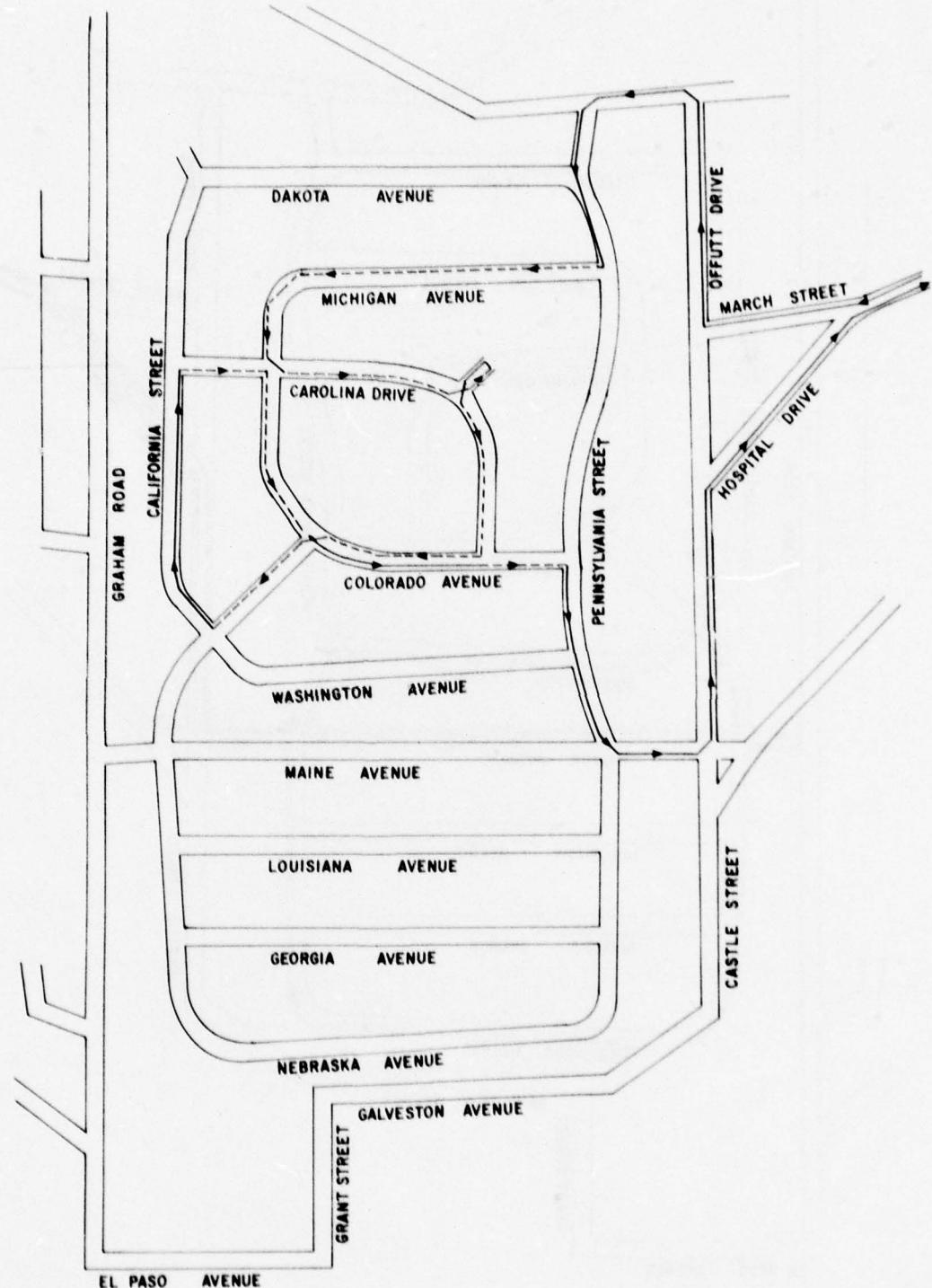
ROUTE 1 TRIP 1

10 CU YD VEHICLE

TRAVEL

COLLECT BOTH SIDES

COLLECT RIGHT SIDE



FAIRCHILD AFB, WASH.

ROUTE 1 TRIP 2
10 CU YD VEHICLE

TRAVEL
COLLECT BOTH SIDES
COLLECT RIGHT SIDE

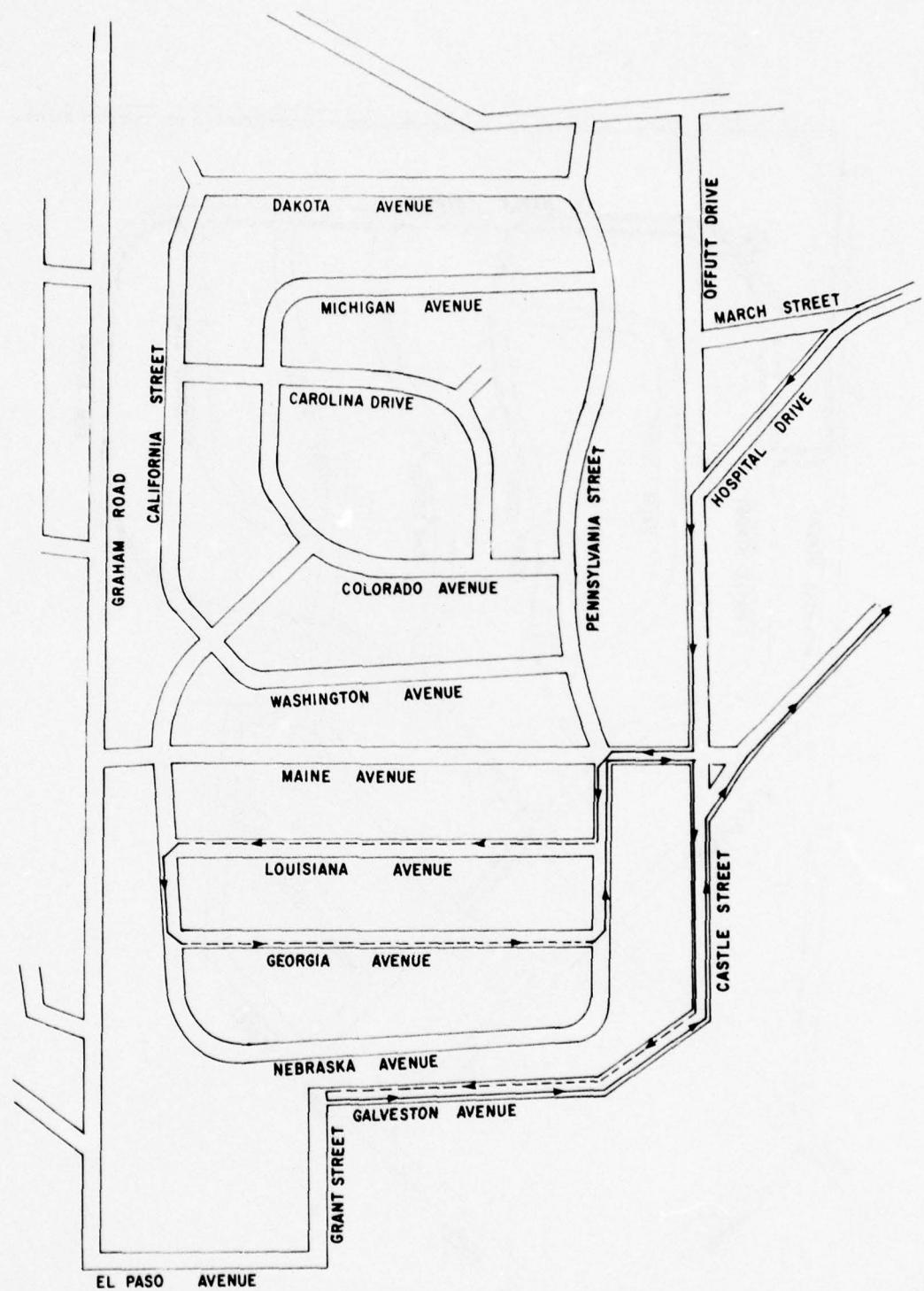


FAIRCHILD AFB, WASH.

**ROUTE 2 TRIP 1
10 CU YD VEHICLE**

TRAVEL

**COLLECT BOTH SIDES
COLLECT RIGHT SIDE**



FAIRCHILD AFB, WASH.

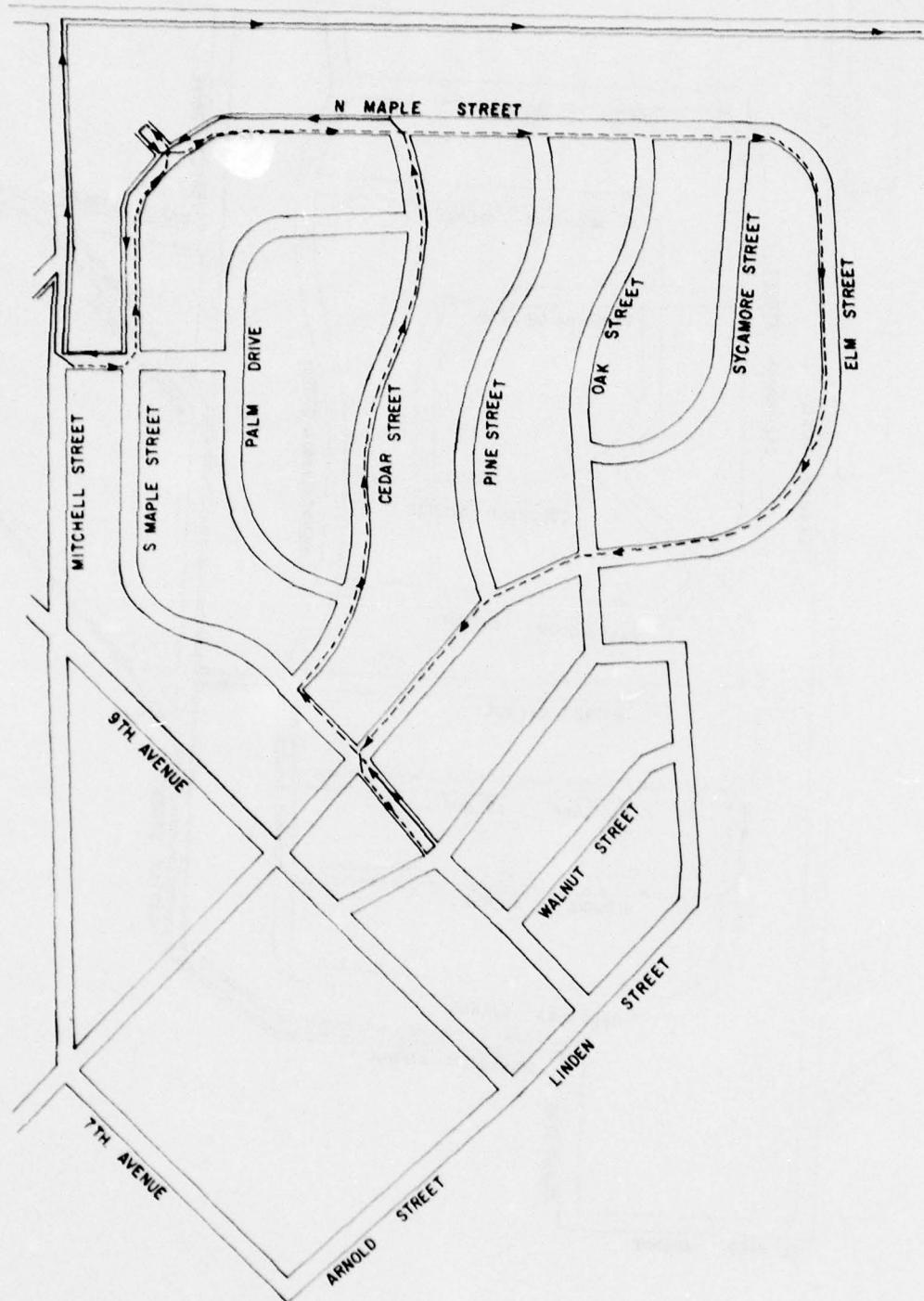
ROUTE 2 TRIP 2

10 CU YD VEHICLE

TRAVEL

COLLECT BOTH SIDES

COLLECT RIGHT SIDE



FAIRCHILD AFB, WASH.

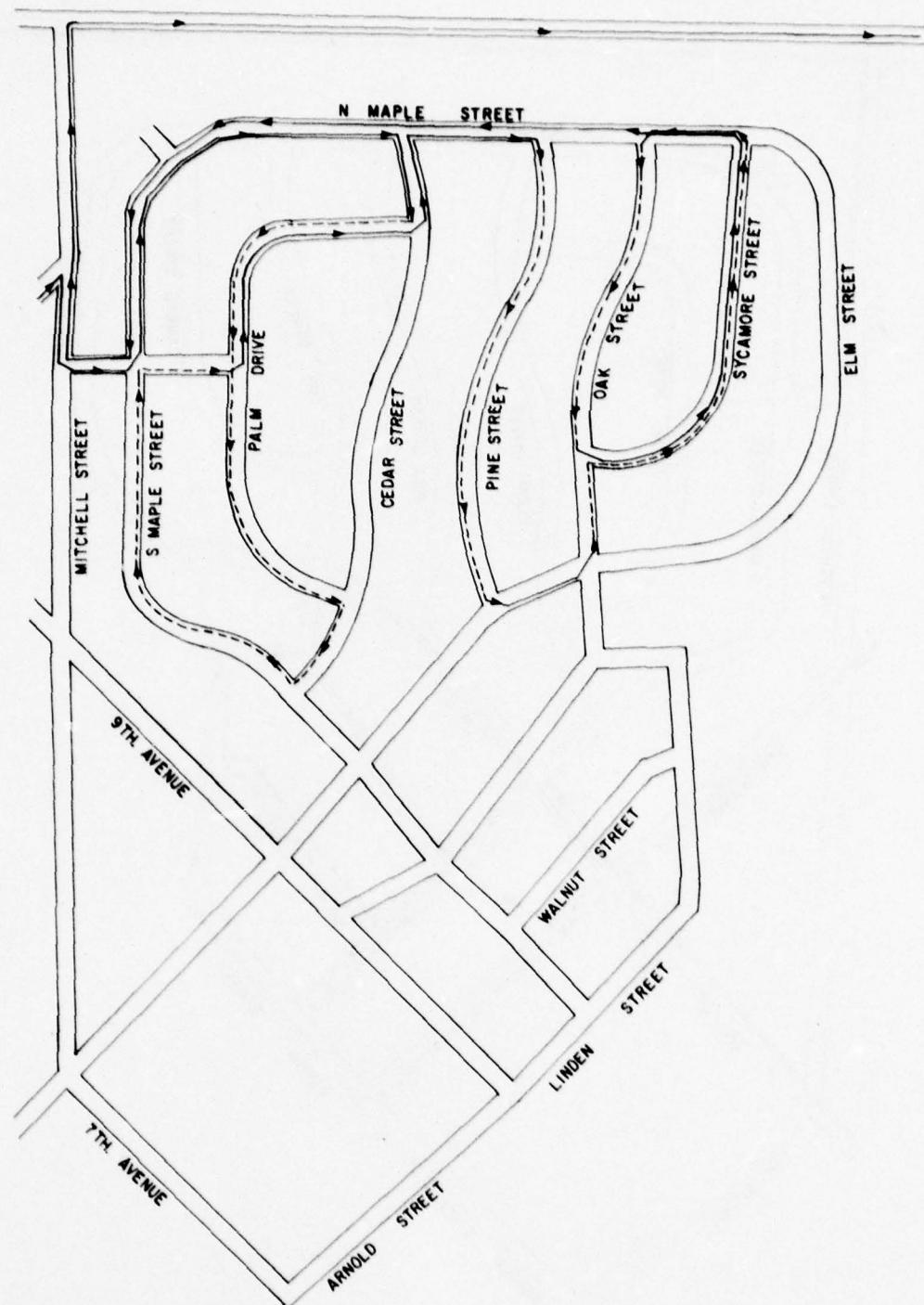
ROUTE 3 TRIP I

10 CU YD VEHICLE

TRAVEL

COLLECT BOTH SIDES

COLLECT RIGHT SIDE



FAIRCHILD AFB, WASH.

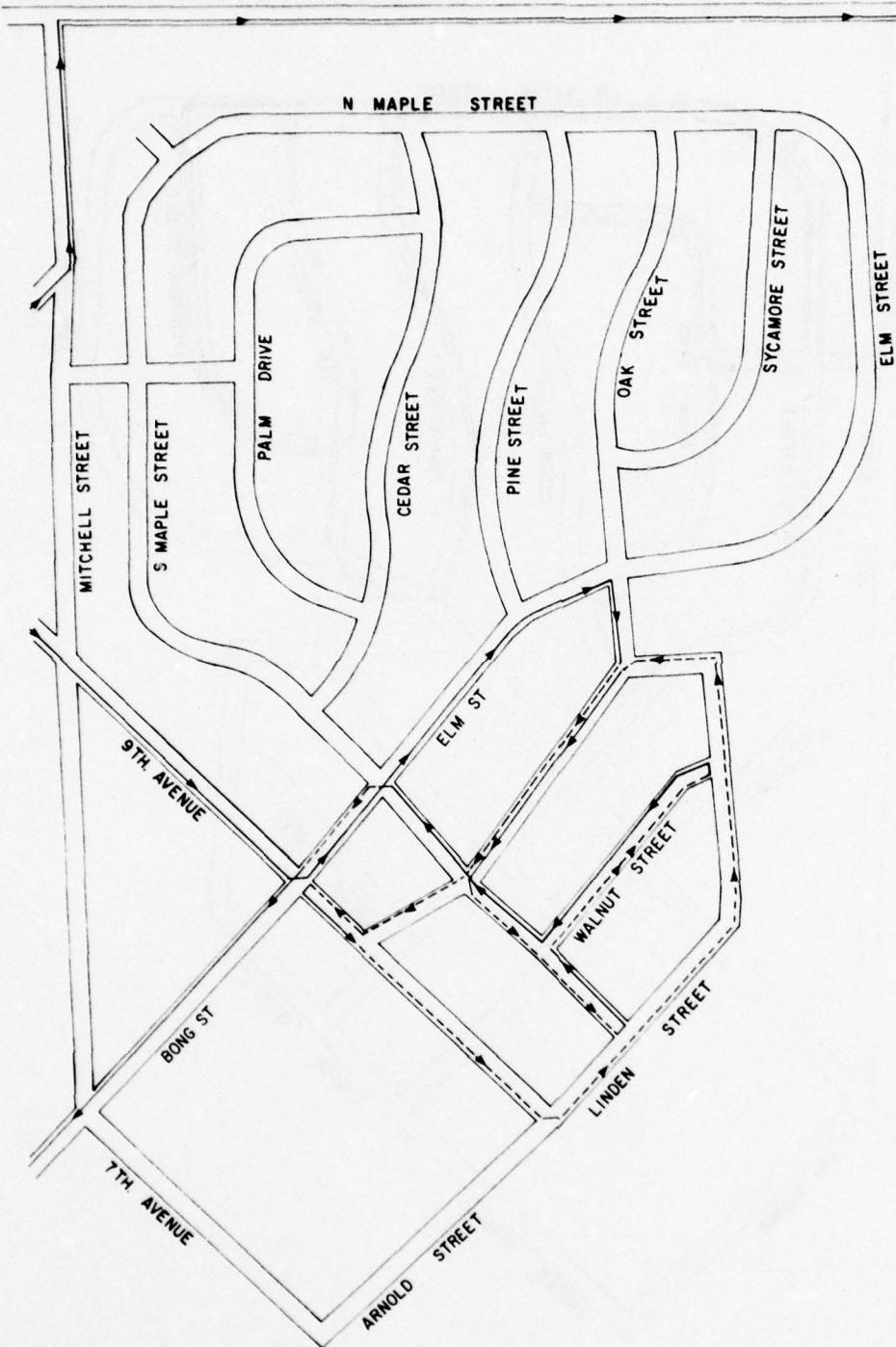
ROUTE 3 TRIP 2

10 CU YD VEHICLE

TRAVEL

COLLECT BOTH SIDES

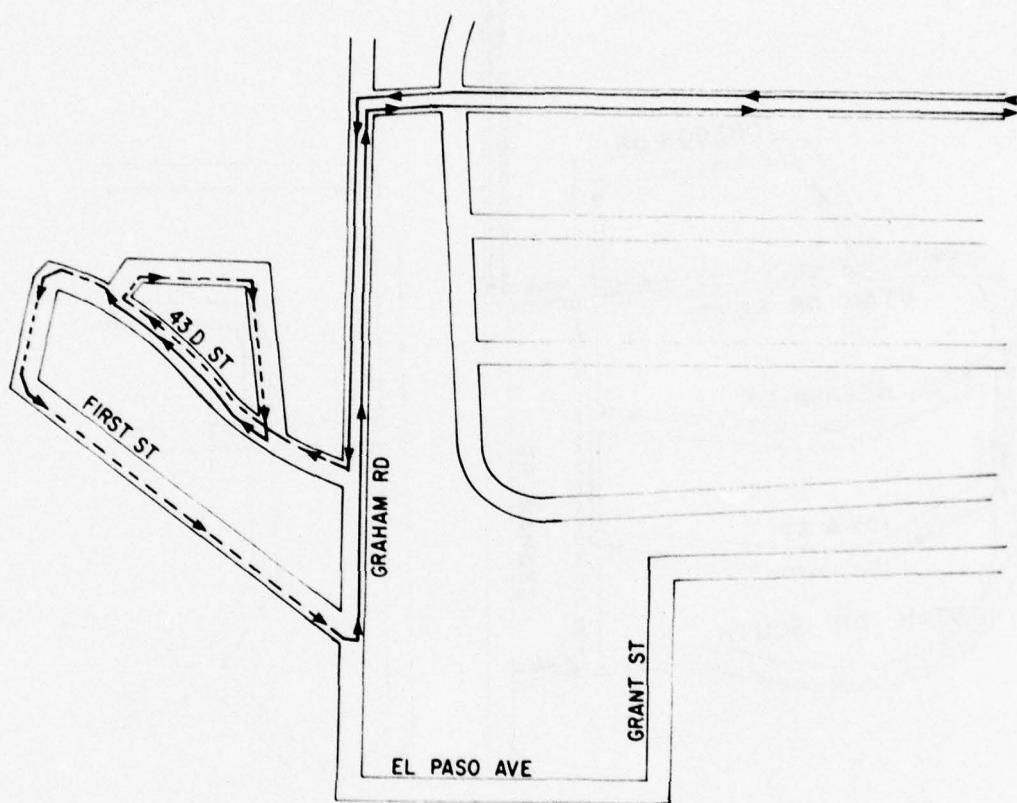
COLLECT RIGHT SIDE



FAIRCHILD AFB, WASH.

ROUTE 4 TRIP 1
10 CU YD VEHICLE

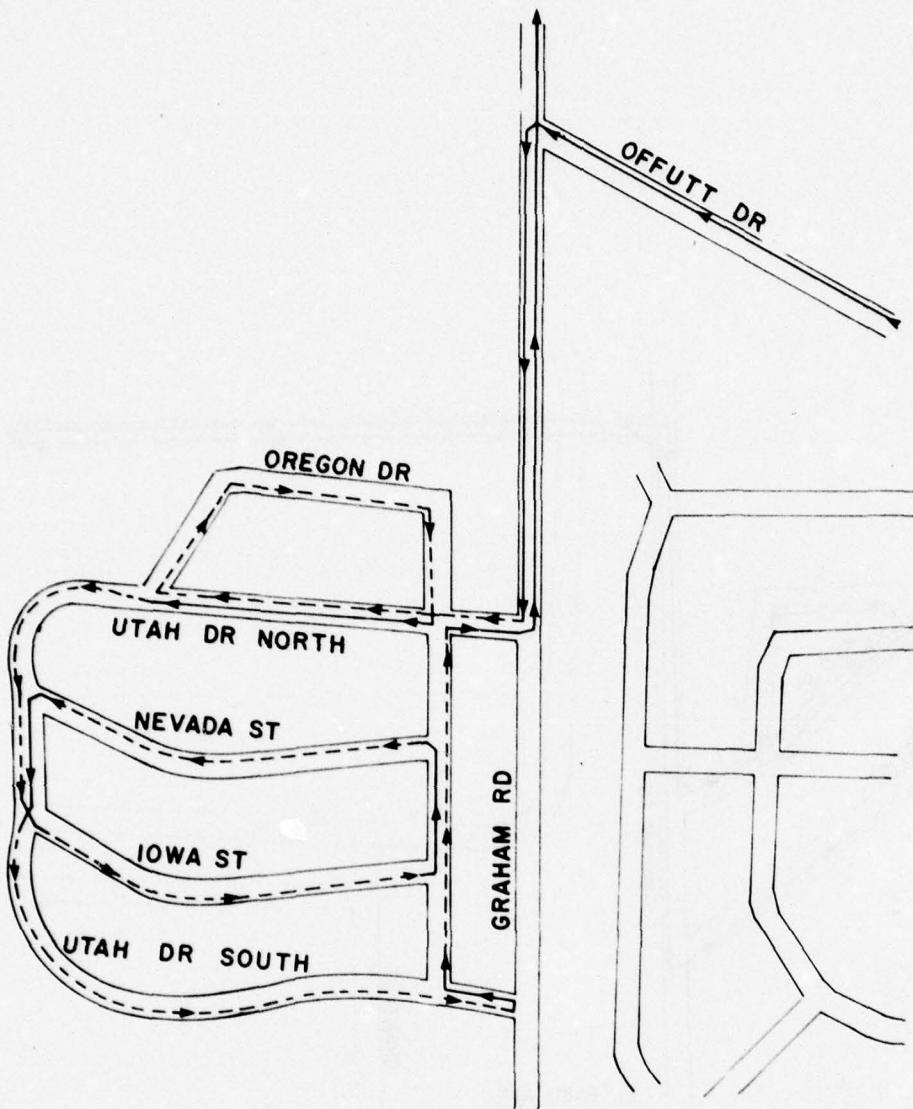
TRAVEL
COLLECT BOTH SIDES
COLLECT RIGHT SIDE



FAIRCHILD AFB, WASH.

ROUTE 4 TRIP 1
10 CU YD VEHICLE

TRAVEL
COLLECT BOTH SIDES
COLLECT RIGHT SIDE



FAIRCHILD AFB, WASH.

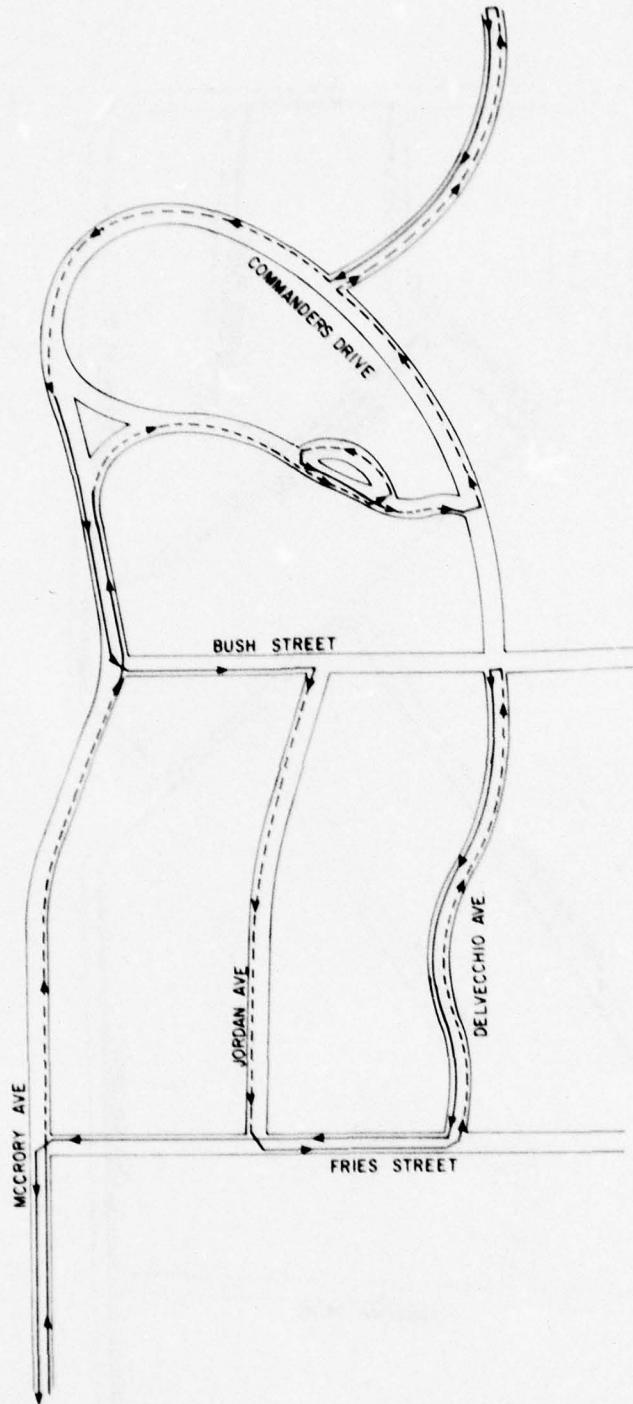
ROUTE 4 TRIP 1

10 CU YD VEHICLE

TRAVEL

COLLECT BOTH SIDES

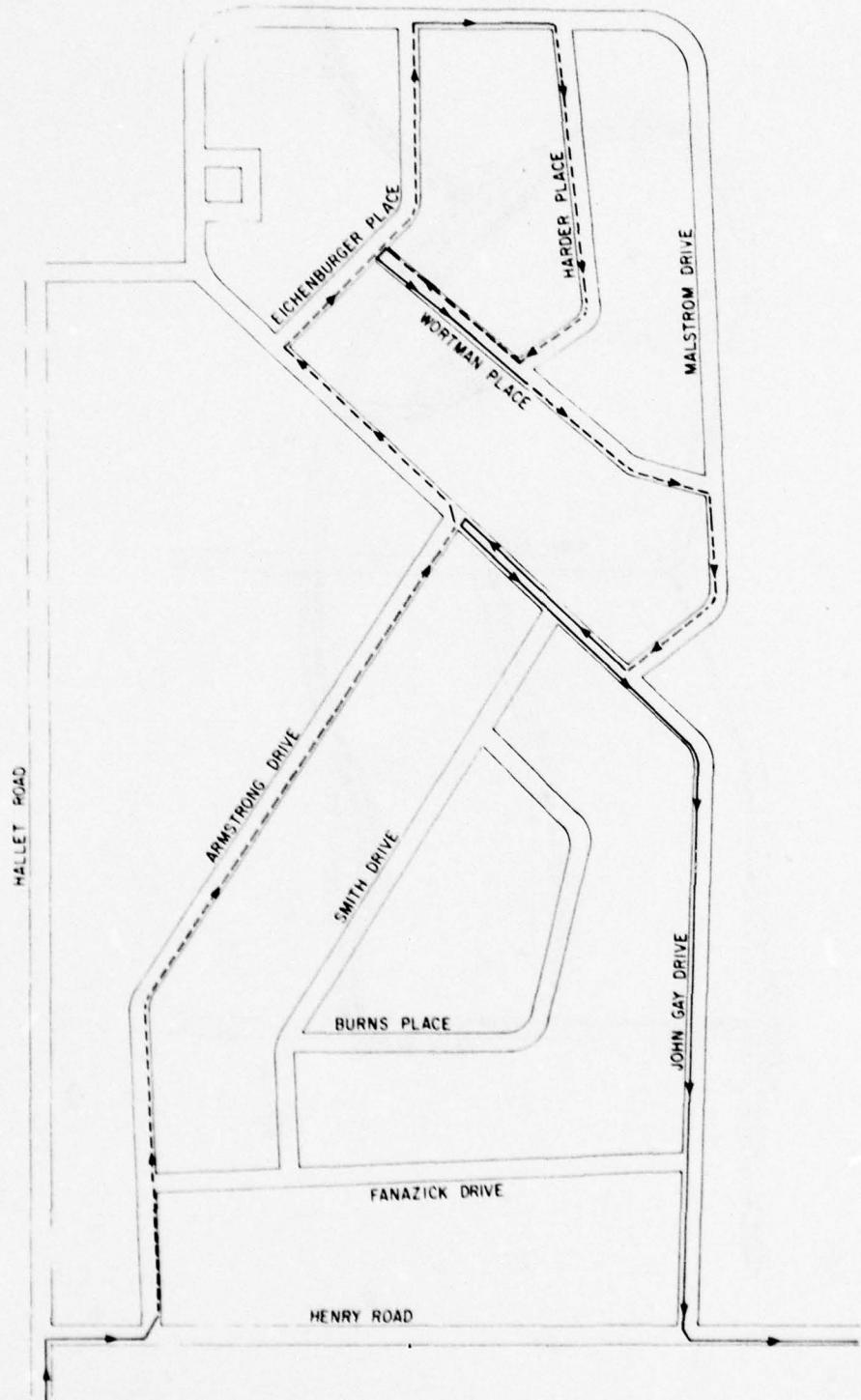
COLLECT RIGHT SIDE



FAIRCHILD AFB, WASH.

ROUTE 6 TRIP 1
10 CU YD VEHICLE

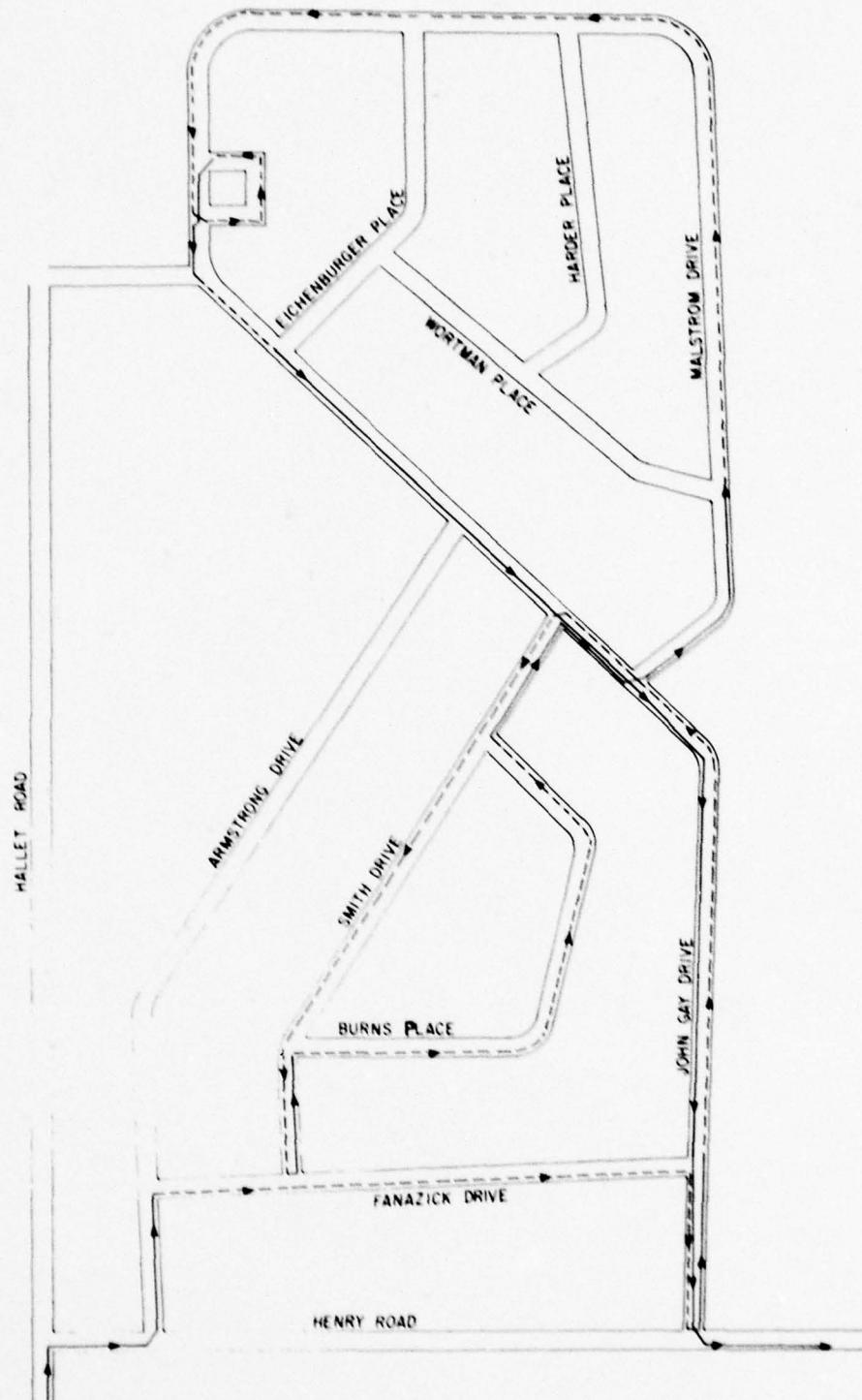
TRAVEL
COLLECT BOTH SIDES
COLLECT RIGHT SIDE



FAIRCHILD AFB, WASH.

ROUTE 5 TRIP 1
10 CU YD VEHICLE

TRAVEL
COLLECT BOTH SIDES
COLLECT RIGHT SIDE



FAIRCHILD AFB, WASH.

ROUTE 5 TRIP 2
10 CU YD VEHICLE

TRAVEL
COLLECT BOTH SIDES
COLLECT RIGHT SIDE

APPENDIX C

RCINPT DATA

1	FAIRCHILD AFB
2	SUNSET HIGHWAY
3	GRAHAM RD
4	FIRST ST
5	43RD ST
6	ARTILLERY CIRCLE
7	UTAH DR SOUTH
8	UTAH DR WEST
9	UTAH DR NORTH
10	OREGON DR
11	IDAHO ST
12	IOWA ST
13	NEVADA ST
14	CALIFORNIA ST
15	DAKOTA AVE
16	PENNSYLVANIA ST
17	NEBRASKA AVE
18	GEORGIA AVE
19	LOUISIANA AVE
20	MAINE AVE
21	WASHINGTON AVE
22	MINNESOTA PL
23	COLORADO AVE
24	CAROLINA DR
25	OHIO ST
26	MICHIGAN AVE
27	OFFUTT DR
28	MARCH ST
29	FAIRCHILD ST
30	MITCHELL ST
31	9TH AVE
32	LINDEN ST
33	WALNUT ST
34	ELM ST
35	N MAPLE ST
36	S MAPLE ST
37	OAK ST
38	SYCAMORE ST

39 PINE ST
40 CEDAR ST
41 PALM DR
42 POPLAR AVE
43 SPOKANE ROAD
44
45
46
47
48
49 MCCORMORY AVENUE
50 COMMANDERS DRIVE
51
52
53
54
55 BUSH STREET
56 JORDAN AVENUE
57 OEL VECCHIO AVENUE
58
59 JOHN GAY DRIVE
60 ARMSTRONG DRIVE
61 FANAZICK DRIVE
62 SMITH DRIVE
63 BURNS PLACE
64 HALSTROM DRIVE
65 MORTMAN PLACE
66 EICHENBURGER PLACE
67 MITCHELL PLACE
68 HARPER PLACE
69 HOSPITAL DR
70 CASTLE ST
71
72 6TH AVE
73 BONG ST
74 7TH AVE
75 ARNOLD ST
76 5TH AVE
77 EL PASO AVE
78 GRANT ST

79 GALVESTON AVE
96 FRIES STREET
97 HAMLET ROAD
98 HENRY ROAD

7/8/9 ((END OF RECORD))

0.	12.	30.	-2.3	6.	20.
0.6	2.8	20.	3.8	5.3	10.
8.	8.5	10.	3.5	4.	10.
9.	9.75	15.	1.5	2.	10.
0.	12.	30.	0.	1.0.	10.
0.	12.	30.	0.	6.	15.
0.	8.	20.	0.	4.	10.
1.	5280.	1.			

7/8/9 ((END OF RECORD))

1	1400	5.	0.0	20/55 (8.05.5.2) (3.15.5.2)	
00	1420	1.8	0.0	1410 1.4 0.0 1400/45 (8.05.1.95)	
97	1430	1.	0.0	1420/45 (9.05.1.95)	
98	1790	1.77	0.0	2050 .19 0.0 1820 .04 0.0 1430/ 40 (9.05.-.05)	
44	1800	3	0.0	1790/ 40 (8.-2.5) RS	
7/8/9	((END OF RECORD))				
1.	400.	2.5			
1	20	11.6	0.0	110 14.6 0.0 80/55 (11.85.8.1) (1.27.8.1)	
2	80	7.8	0.0	90 2.8 0.0 100 2.1 0.0 120 1.6 0.0 130 2.1 0.0 140 .9 0.0 150	
•A5	0.0	155/30	(•)	(1.24..85)	
3	150	2.3	10.11	160/(•) LS (.5.1.75)	
4	160	.6	0.4	170 / (•) (.55.2)	
4	170	.4	1.2	180 1.2 6.0 190 .5 2.0 140/(•) LS	
5	180	.9	1.4	182/(•) L.2 (1.32.2)	
5	190	.9	5.2	182	
6	200	.5	0.2	120/(1.05.3.05)	
6	210	1.9	10.10	200/(3.3.05) RS	
7	210	1.2	4.8	230/(•) LC (.14.3.45)	
7	230	.5	2.4	240/(•) (.13.3.72)	
7	240	.65	2.8	260 / (•) LC (.2.3.95)	
8	260	.5	2.4	270 1.6 8.6 280 .5 0.2 100/(•) RS	
9	270	2	8.12	300/(•) L.8 (1.05.4.15)	
9	300	.5	0.2	280	

10	200	•7	4.0	2	310	•7	4.0	320	•7	4.0	2	280
11	230	2.4	12.12	310/(•)	R.9							
12	240	2.4	14.12	320/(•)	R1							
13	360	•65	1.4	350	•7	0.3	340	•7	2.3	330	/	(1.5,1.57)
13	330	1.0	3.5	370/(•)	LC(1.0,2.75)							
13	370	2.2	12.17	390/(•)	L.5	(1.48,3.58)						
13	390	1.45	8.10	410/(•)	L1	(1.55,4.15)						
14	410	2.9	18.21	450/(•)	(2.7,4.15)							
15	450	•75	2.6	460	2.25	14.19	470	•75	3.6	480	•75	3.4 490/(•)
15	490	•7	2.4	500	•7	0.2	510	•75	1.5	520/(•)	L1.9	LS (2.8,2.4)
16	520	3.2	15.20	360/(•)	L2.8							
17	350	3.3	18.16	510								
18	500	3.3	25.23	340								
19	130	•5	2.0	330	3.3	24.24	490	•7	2.2	550	/	(•) (3.1,2.4)
19	551	•35	0.0	550/30	(3.23,2.42)							
20	480	2.9	16.19	370/(•)	L2.5							
21	370	1.1	6.3	570	/	(•)	(1.9,3.05)					
22	570	1.35	11.2	590/(•)	R.4	(2.42,2.98)						
22	590	•7	3.3	470								
23	590	1.35	6.6	600/(•)	R.9	(2.35,3.5)						
23	600	1.45	7.7	620/(•)	R.45	(1.78,3.57)						
23	620	•7	3.4	390								
24	570	1.4	2.10	620/(•)	L.6							
24	620	•7	2.4	640/(•)	L.55	(1.82,3.84)						
25	600	•4	4.6	660/(•)	(2.45,3.6)							
26	640	2.4	16.20	460/(•)	L.2							
43	410	•3	0.2	710	/	(•)	(1.5,4.25)					
77	155	1.7	0.0	530/(•)	(1.93,•.85)							
78	530	1.2	0.0	540/(•)	(1.93,1.35)							
79	540	3.1	2.0	545/(•)	R2.2	(3.1,1.6)						
71	545	1.5	0.0	610	•65	0.0	551/(•)	L1.5				
27	610	•5	0.0	550	2	0.0	670	1.2	0.0	690	1.8	0.0 700/30 (•) (3.05,4.4)
27	700	•8	0.0	1180	4.1	0.0	90/30	(•)	L1.6			
15	450	•6	2.0	1180								
28	691	1.2	0.0	690/30	(3.54,3.75)							
70	670	1.8	0.0	691								
28	691	2.20	0.0	720/30	(•)	RC (4.22,4.28)						
29	720	3.7	0.0	724	2.9	0.0	725	2.2	0.0	730	2.0	0.0 740/30 (•) (7.2,7.4)
76	726	3.75	0.0	724/30	(4.17,6.4)							

71	554	6.0	0.0	553	4.2	0.0	551/30	(6.08.5.4)
71	725	2.0	0.0	554/30	(.)			
30	110	1.7	0.0	740	0.0	750	2.0	0.0 760 / 30 (,)
31	730	1.9	0.0	760	2.2	0.0	770	0.6 0.2 780 1.8 0.8 810/(,)
72	555	2.7	0.0	554/30	(6.08.4.66)			(8.55.5)
73	770	2.2	0.0	556	1.3	0.0	555/30 (,)	
30	556	3.2	0.0	760	/30			
74	557	2.3	0.0	556/30	(7.9.4.41)			
75	557	2.2	0.0	810				
32	810	0.8	4.4	820	2.2	12.9	840/(,)	R1.9 (9.04.6)
32	840	1.3	7.2	860/(,)	R.7	(8.77.6.27)		
33	840	1.85	7.5	1370/(,)	R.3	(8.53.5.48)		
34	770	0.9	4.1	870	1.5	9.7	880 / (,)	(8.47.6.42)
34	860	0.7	4.2	890 / (,)	LC	(8.75.6.55)		
34	890	1.0	3.2	900 / (,)	(9.15.6.6)			
34	900	1.3	7.7	910 / (,)	RC	(9.45.7.0)		
34	910	1.6	13.12	920 / (,)		(9.42.7.6)		
34	920	0.7	5.2	930 / (,)	RC	(9.25.7.8)		
35	930	0.2	2.0	940	7.2	4.3	950	0.78 4.3 960 1.0 6.4 970 1.75 11.10 1060/(,)
		(7.5.7.7)						R4
49	1060	0.35	3.3	1080/(,)	(7.4.7.8)			
35	1060	1.6	6.8	1000/(,)	R.45	(7.4.7.1)		
36	1000	1.6	8.9	1010/(,)	(7.4.6.47)			
36	1010	1.5	9.7	1030/(,)	RS	(7.88.6.15)		
36	1030	0.7	3.2	870	0.9	1.1	1040	0.7 4.2 1370 .8 4.1 820
37	780	1.0	0.2	1040 / (,)	(8.32.5.67)			
37	1040	1.9	7.10	860				
37	860	0.7	0.6	890	0.8	3.4	1081 / (,)	(8.72.6.87)
37	1081	2.4	13.15	950 / (,)	LS	(9.0)		
38	940	1.9	1.1	12.1091 / (,)	(9.12.7.05)			
38	1091	1.2	4.6	1081 / (,)	LC	(,)		
39	860	2.3	1.3	17.1381 / (,)	LC	(8.52.7.3)		
39	1380	1.29	7.5	960 / (,)	RC			
40	1030	0.82	5.1	1100	.82	6.4	1110 / (,)	RC (8.07.6.75)
40	1110	1.98	13.11	1120 / (,)	LS	(8.23.7.52)		
40	1120	0.7	3.1	970 / (,)	RC			
-1	1100	0.6	1.3	1170 / (,)	(7.85.6.50)			
41	1170	0.75	2.6	1160 / (,)	LC	(7.7.6.75)		
-1	1160	0.85	3.5	1150	.7	2.4	1140 / (,)	(7.7.7.4)

41 1140 0.6 3.6 1130 / (.) LC (7.9,7.5)
 41 1130 0.8 4.4 1120 / (.) (.)
 42 750 .6 1.2 1000 .7 1.1 1150
 7/8/9 (END OF RECORD)
 1. 100 2.5

97 1430 20 0,0 1810/45 (-3.5,45) (8.3, 5.42)

59 2050 3.1 4.0 2060 9.8 14.10 2090 1.8 1.2 2000 2.6 3.0 1860 4.6 4.0 2100
2.1 1.0 2110/(.) R11 (8.3,4.25)

60 1840 3.4 4.4 1830 2.9 2.0 1820/(2.8,4.07)

60 1840 10.8 14.8 1860/(.) L6.4

61 1830 2.65 4.0 1870 7.4 10.10 2060/(.)

62 1880 2.6 4.0 1870/(2.40,3.62)

62 1880 6.8 8.8 1900 2.6 0.4 2000/(.) L5.4

63 2010 4.1 2.6 1880/(2.5,2.0)

63 2020 1.0 2.2 2010/(2.7,1.7) LC

63 2020 6.2 10.4 1900/(.) R3.5

64 2140 1.6 2.0 2270 1.0 2.0 2240 1.1 0,0 2110/(9.8,4.25)

64 2150 1.42 2.1 2140/(10.2,3.9) RC

64 2170 1.4 2.0 2161 2.9 4.1 2160 3.15 4.2 2150/(10.15,0.95)

64 2180 1.50 2.1 2170/(9.8,0.5) RC

64 2090 4.4 2.4 2190 7.9 10.7 2180/(.) R2.2

58 1010 3.0 0 2110 66 2100 2.1 2220 4.6 2.3 2160/(.) R3.6

65 2190 4.4 2.5 2210 3.5 2.3 2220/(.) L1.5

68 2210 7.3 8.6 2161/(.) R1.7

67 2240 3.1 3.0 2270/(.) RR

7/8/9 (END OF RECORD)
1. 100 2.5

50 1760 6 0.0 1410/ (1.2,3.5) (-1.2,3.5)

96 1760 2.95 0.0 1660 2.7 0.0 1650 2.5 0.0 1740/ (1.2,3.5) (1.2,0.25)

50 1760 7.2 10.2 1540/(.) L3.8 (4.3,0.05)

55 1750 2.25 0.0 1600 2.35 0.0 1700 2.8 0.0 1540/(4.03,0.1)

51 1550 2.60 0.0 1540/(15.05,3.22)

51 1560 1.75 0.0 1550/(15.75,3.38)

51 1571 3 2.0 1560/(6.66,2.82) RC

51 1570 2.62 3.0 1571/(6.2,1.9) RC

51 1600 2.20 0.0 1590 3.9 6.0 1570/(4.0,0.1,0) RC

52	1710	1.70	0.0	1550/(5.42+2.7)	RC
52	1710	1.95	0.0	1560/(.)	LC
52	1720	1.74	1.1	1710/(5.19+2.06)	RC
52	1730	1.3	0.1	1720/(4.95+1.6)	LC
52	1730	1.35	2.0	1590/(.)	RS
53	1730	1.63	1.0	1720/(.)	RC
54	1580	5.1	3.4	1570/(7.85+9.8)	LC
56	1660	7.15	10.10	1700/(.)	L4
57	1650	3.6	4.4	1630/(.)RS	(2.62+1.27)
57	1630	3.6	6.4	1600/(.)RC	
7/8/9				(END OF RECORD)	
7/8/9				(END OF RECORD)	

APPENDIX D

PHASE4 DATA FOR ORIGINAL ROUTES

725	90T	730	91T	740	96T	110	9T	20	1T	1400	3T	1410	2T	1420	4T
1430	7T	1820	6T	2050	5T	1790	8T	1800							
8			3	193.0											
726	92T	724	86T	720	87T	691	86T	670	79T	550	59T	490	58T	330	43T
370															
12			3	193.0											
370	61C	480	50T	490	58C	330	57C	130	57T	330	42C	340	41C	350	40C
360	54C	520	53C	510	52C	500	51C	490							
18			3	193.0											
490	59T	550	79T	670	86T	691	87T	720	88T	724	89T	725	90T	730	91T
740	96T	110	9T	20	17	1400	3T	1410	2T	1420	4T	1430	7T	1820	6T
2050	5T	1790	8T	1800											
7			4	193.0											
726	92T	724	88T	720	87T	691	86T	670	79T	550	59T	490	51T	500	
9			4	193.0											
500	56C	340	41T	350	55C	510	52T	500	51T	490	59T	550	78T	610	76T
545	75C	540													
18			4	193.0											
540	75T	545	76T	610	77T	551	94T	553	93T	554	95T	725	90T	730	91T
740	96T	110	9T	20	17	1400	3T	1410	2T	1420	4T	1430	7T	1820	6T
2050	5T	1790	8T	1800											
5			5	193.0											
726	92T	724	89T	725	90T	730	91T	740	97T	750					
22			5	193.0											
750	152C	1000	126C	1060	125C	1080	125T	1060	124C	970	123C	960	122C	950	121C
940	120C	930	119C	920	118C	910	117C	900	116C	890	115C	880	114C	870	130C
1040	130T	870	129C	1030	142C	1100	143C	1110	144C	1120	145C	970			
14			5	193.0											
970	124T	1060	126T	1000	152T	750	97T	740	96T	110	9T	20	1T	1400	3T
1410	2T	1420	4T	1430	7T	1820	6T	2050	5T	1790	8T	1800			
9			6	193.0											
726	92T	724	89T	725	90T	730	91T	740	97T	750	152T	1000	126T	1060	124T
970	145T	1120													
23			6	193.0											
1120	151C	1130	150C	1140	149C	1150	148C	1160	147C	1170	146C	1100	142T	1030	128C
1010	127C	1000	153C	1150	149T	1140	150T	1130	151T	1120	145T	970	123T	960	141C
1380	140C	880	115T	890	136C	1081	139C	1091	138C	940	121T	950	137C	1081	
19			6	193.0											
1081	139T	1091	138T	940	121T	950	122T	960	123T	970	124T	1060	126T	1000	152T

750	97T	740	96T	110	9T	20	1T	1400	3T	1410	2T	1420	4T	1430	7T
1820	6T	2050	5T	1790	8T	1800									
9	726	92T	724	89T	725	90T	730	99T	760	100T	770	113T	870	114T	880
690	135T	860	7	193.0											115T
35	860	134C	1040	133C	780	101C	770	101T	780	102C	810	109C	820	110C	840
860	134T	1040	131C	1370	132C	820	132T	1370	112C	840	112T	1370	131T	1040	111C
870	113C	770	104T	556	105T	555	103T	554	93T	553	94T	551	60T	550	59T
490	58T	330	57T	130	15T	140	22C	190	21C	180	23C	182	24C	190	21T
180	20C	170	19C	160	18C	150									
21	150	16T	140	15T	130	57T	330	58T	490	59T	550	60T	551	94T	553
554	95T	725	90T	730	91T	740	96T	110	9T	20	1T	1400	3T	1410	2T
1420	4T	1430	7T	1820	6T	2050	5T	1790	8T	1800					
8	726	92T	724	88T	720	87T	691	85T	690	81T	700	82T	1180	83T	90
100															12T
19	100	32C	280	31C	270	33C	300	34C	280	31T	270	30C	260	29C	240
230	38C	310	36T	320	39C	240	28T	230	27C	210	26C	200	25C	120	28C
200	35C	310	36C	320	37C	280									25T
13	280	32T	100	12T	90	11T	80	10T	110	9T	20	1T	1400	3T	1410
1420	4T	1430	7T	1820	6T	2050	5T	1790	8T	1800					2T
9	726	92T	724	89T	725	90T	730	91T	740	96T	110	9T	20	1T	1400
1410	109T	1760	42	9	193.0										3T
1760	193C	1540	197T	1550	203T	1710	205C	1720	206C	1730	208C	1720	206T	1730	207C
1590	202C	1570	209C	1580	209T	1570	200C	1571	199C	1560	198T	1550	197T	1540	196T
1700	210C	1660	191T	1650	211C	1630	212C	1600	212T	1630	211T	1650	191T	1660	190T
1760	189T	1410	2T	1420	4T	1430	7T	1620	162C	1830	161C	1840	163C	1860	159C
2100	183C	2220	184C	2160	177T	2161	187C	2210	186C	2220	186T	2210	185C	2190	180C
2090	157C	2000	158C	1860											
6	1860	156T	2000	157T	2090	156T	2060	155T	2050	5T	1790	8T	1800		
12	726	92T	724	89T	725	90T	730	91T	740	96T	110	9T	20	1T	1400
															3T

1410	2T	1420	4T	1430	7T	1820	162T	1830
28			10	193.0				
1030	164C	1670	165C	2060	155C	2050	155T	2060
1880	166C	1870	1661	1880	169C	2010	179C	2020
2190	181C	2180	179C	2170	176C	2161	177C	2160
2240	188C	2270	1731	2240	174T	2110	160C	2100
7			10	193.0				
2100	159T	1860	158T	2000	157T	2090	156T	2060
7/8/9	(END OF RECORD)							

APPENDIX E

PHASE4 DATA FOR RCSP ROUTES

FAIRCHILD AFB
HOUSEHOLDS

•5.

30.

12.

10 CU YD VEHICLE

(END OF RECORD)

7/8/9 2 9.035 9.535

1 2 8.10 8.50

2 2 2.25 2.75

3 2 2.25 2.75

4 1 2.25 2.75

4 1 1.10 1.60

5 2 0.85 1.75

6 1 0.90 1.60

7 1 1.10 1.60

6 1 1.10 1.60

8 1 9.035 9.535

(END OF RECORD)

14 16.030

1800 8T 1 790 5T

20 9T 1 110 96T

10 8.399 1

726 92T 724 89T

1410 189T 1 760 190T

52 6.065 1

1660 210C 1 700 195T

1560 204T 1 710 205C

1630 211C 1 650 191T

1430 7T 1 820 162C

2100 183C 2 220 183T

2140 175C 2 150 178C

1870 166T 1 880 169C

6 5.098 1

1900 168T 2 000 157T

3 4.829 1

1800 8T 1 790 5T

59 1

2060 165C 1 870 164C

1660 210C 1 700 195T

5.

10.

10 CU YD VEHICLE

(END OF RECORD)

7/8/9 18.0

1 2 8.10 8.50

2 2 2.25 2.75

3 2 2.25 2.75

4 1 2.25 2.75

4 1 1.10 1.60

5 2 0.85 1.75

6 1 0.90 1.60

7 1 1.10 1.60

6 1 1.10 1.60

8 1 9.035 9.535

(END OF RECORD)

14 16.030

1800 8T 1 790 5T

20 9T 1 110 96T

10 8.399 1

726 92T 724 89T

1410 189T 1 760 190T

52 6.065 1

1660 210C 1 700 195T

1560 204T 1 710 205C

1630 211C 1 650 191T

1430 7T 1 820 162C

2100 183C 2 220 183T

2140 175C 2 150 178C

1870 166T 1 880 169C

6 5.098 1

1900 168T 2 000 157T

3 4.829 1

1800 8T 1 790 5T

59 1

2060 165C 1 870 164C

1660 210C 1 700 195T

1

10 CU YD VEHICLE

(END OF RECORD)

18.0

1 2 8.10 8.50

2 2 2.25 2.75

3 2 2.25 2.75

4 1 2.25 2.75

4 1 1.10 1.60

5 2 0.85 1.75

6 1 0.90 1.60

7 1 1.10 1.60

6 1 1.10 1.60

8 1 9.035 9.535

(END OF RECORD)

18.0

1 2 8.10 8.50

2 2 2.25 2.75

3 2 2.25 2.75

4 1 2.25 2.75

4 1 1.10 1.60

5 2 0.85 1.75

6 1 0.90 1.60

7 1 1.10 1.60

8 1 9.035 9.535

(END OF RECORD)

10.

10 CU YD VEHICLE

(END OF RECORD)

18.0

1 2 8.10 8.50

2 2 2.25 2.75

3 2 2.25 2.75

4 1 2.25 2.75

4 1 1.10 1.60

5 2 0.85 1.75

6 1 0.90 1.60

7 1 1.10 1.60

6 1 1.10 1.60

8 1 9.035 9.535

(END OF RECORD)

18.0

1 2 8.10 8.50

2 2 2.25 2.75

3 2 2.25 2.75

4 1 2.25 2.75

4 1 1.10 1.60

5 2 0.85 1.75

6 1 0.90 1.60

7 1 1.10 1.60

6 1 1.10 1.60

8 1 9.035 9.535

(END OF RECORD)

18.0

1 2 8.10 8.50

2 2 2.25 2.75

3 2 2.25 2.75

4 1 2.25 2.75

4 1 1.10 1.60

5 2 0.85 1.75

6 1 0.90 1.60

7 1 1.10 1.60

6 1 1.10 1.60

8 1 9.035 9.535

(END OF RECORD)

18.0

1 2 8.10 8.50

2 2 2.25 2.75

3 2 2.25 2.75

4 1 2.25 2.75

4 1 1.10 1.60

5 2 0.85 1.75

6 1 0.90 1.60

7 1 1.10 1.60

6 1 1.10 1.60

8 1 9.035 9.535

(END OF RECORD)

18.0

1 2 8.10 8.50

2 2 2.25 2.75

3 2 2.25 2.75

4 1 2.25 2.75

4 1 1.10 1.60

5 2 0.85 1.75

6 1 0.90 1.60

7 1 1.10 1.60

8 1 9.035 9.535

(END OF RECORD)

18.0

5.

10 CU YD VEHICLE

(END OF RECORD)

18.0

1 2 8.10 8.50

2 2 2.25 2.75

3 2 2.25 2.75

4 1 2.25 2.75

4 1 1.10 1.60

5 2 0.85 1.75

6 1 0.90 1.60

7 1 1.10 1.60

6 1 1.10 1.60

8 1 9.035 9.535

(END OF RECORD)

18.0

1 2 8.10 8.50

2 2 2.25 2.75

3 2 2.25 2.75

4 1 2.25 2.75

4 1 1.10 1.60

5 2 0.85 1.75

6 1 0.90 1.60

7 1 1.10 1.60

6 1 1.10 1.60

8 1 9.035 9.535

(END OF RECORD)

18.0

1 2 8.10 8.50

2 2 2.25 2.75

3 2 2.25 2.75

4 1 2.25 2.75

4 1 1.10 1.60

5 2 0.85 1.75

6 1 0.90 1.60

7 1 1.10 1.60

6 1 1.10 1.60

8 1 9.035 9.535

(END OF RECORD)

18.0

1 2 8.10 8.50

2 2 2.25 2.75

3 2 2.25 2.75

4 1 2.25 2.75

4 1 1.10 1.60

5 2 0.85 1.75

6 1 0.90 1.60

7 1 1.10 1.60

6 1 1.10 1.60

8 1 9.035 9.535

(END OF RECORD)

18.0

1 2 8.10 8.50

2 2 2.25 2.75

3 2 2.25 2.75

4 1 2.25 2.75

4 1 1.10 1.60

5 2 0.85 1.75

6 1 0.90 1.60

7 1 1.10 1.60

8 1 9.035 9.535

(END OF RECORD)

18.0

10.

10 CU YD VEHICLE

(END OF RECORD)

18.0

1 2 8.10 8.50

2 2 2.25 2.75

3 2 2.25 2.75

4 1 2.25 2.75

4 1 1.10 1.60

5 2 0.85 1.75

6 1 0.90 1.60

7 1 1.10 1.60

6 1 1.10 1.60

8 1 9.035 9.535

(END OF RECORD)

18.0

1 2 8.10 8.50

2 2 2.25 2.75

3 2 2.25 2.75

4 1 2.25 2.75

4 1 1.10 1.60

1560	204T	1710	205C	1720	206C	1730	208C	1720	206T	1730	207C	1590	201T	1600	212C
1630	211C	1650	191T	1660	210T	1700	196T	1540	193C	1760	189T	1410	2T	1420	4T
1430	7T	1620	162T	1630	164T	1670	166C	1880	167C	1900	171C	2020	170C	2010	169C
1880	167T	1900	168C	2000	158C	1860	159C	2100	183T	2220	183C	2100	160C	2110	174T
2240	173T	2270	188C	2240	173C	2270	172C	2140	175C	2150	178C	2160	177C	2161	176T
2170	179T	2180	181T	2190	180C	2090									
4	5.014	1	193.000	193.000	193.000	193.000	193.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000
2090	156T	2060	155T	2050	5T	1790	8T	1800							
10	1.140	2	193.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000
726	92T	724	89T	725	90T	730	91T	740	97T	750	152T	1000	153T	1150	149T
1140	150T	1130	151T	1120											
21	1.728	2	193.000	193.000	193.000	193.000	193.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000
1120	144C	1110	143C	1100	142T	1030	129T	870	114T	880	140C	1380	141C	960	122C
950	121C	940	120C	930	119C	920	118C	910	117C	900	116C	890	136T	1081	139C
1091	138C	940	121T	950	122T	960	123C	970	145C	1120					
16	15.526	2	193.000	193.000	193.000	193.000	193.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000
1120	151T	1130	150T	1140	149T	1150	153T	1000	152T	750	97T	740	96T	110	9T
20	1T	1400	3T	1410	2T	1420	4T	1430	7T	1820	6T	2050	5T	1790	8T
1600															
16	15.526	2	193.000	193.000	193.000	193.000	193.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000
1600	8T	1790	5T	2050	6T	1820	7T	1430	4T	1420	2T	1410	3T	1400	1T
20	9T	110	96T	740	97T	750	152T	1000	153T	1150	149T	1140	150T	1130	151T
1120															
21	1.728	2	193.000	193.000	193.000	193.000	193.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000
1120	144C	1110	143C	1100	142T	1030	129T	870	114T	880	140C	1380	141C	960	122C
950	121C	94S	120C	930	119C	920	118C	910	117C	900	116C	890	136T	1081	139C
1091	138C	940	121T	950	122T	960	123C	970	145C	1120					
16	15.526	2	193.000	193.000	193.000	193.000	193.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000
1120	151T	1130	150T	1140	149T	1150	153T	1000	152T	750	97T	740	96T	110	9T
20	1T	1400	3T	1410	2T	1420	4T	1430	7T	1820	6T	2050	5T	1790	8T
1600															
6	1.125	3	193.000	193.000	193.000	193.000	193.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000
726	92T	724	89T	725	95T	554	103T	555	105T	556	104T	770			
33	2.757	3	193.000	193.000	193.000	193.000	193.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000
770	101C	780	133C	1040	131C	1370	112C	940	110C	820	109C	810	102C	780	101T
770	113C	870	130C	1040	131T	1370	132C	820	110T	840	111C	860	134C	1040	130T
670	114C	880	115C	890	136C	1081	137C	950	121T	940	138T	1091	139T	1081	136T
890	115T	880	114T	870	129C	1030	142C	1100	146C	1170	147C	1160	148C	1150	153C
1000	152C	750													

11	15.268	3	193.000	190.000									
750	97T	740	96T	110	9T	20	1T	1400	3T	1410	2T	1420	4T
1820	6T	2050	5T	1790	8T	1800							
11	15.268	3	193.000	190.000									
1800	8T	1790	5T	2050	6T	1820	7T	1430	4T	1420	2T	1410	3T
20	9T	110	96T	740	97T	750							
32	2.719	3	193.000	190.000									
750	152C	1000	153C	1150	148C	1160	147C	1170	146C	1100	142C	1030	129C
880	115C	890	136C	1081	137C	950	121T	940	138T	1091	139T	1081	136T
880	114T	870	130C	1040	133C	780	102C	810	109C	820	110C	840	112C
1040	134C	860	111C	840	110T	820	132C	1370	131T	1040	133T	780	101C
870													
14	15.655	3	193.000	190.000									
870	113T	770	100T	760	98T	750	97T	740	96T	110	97	20	1T
1410	2T	1420	4T	1430	7T	1820	6T	2050	5T	1790	8T	1800	3T
6	1.019	4	193.000	178.000									
726	92T	724	88T	720	87T	691	85T	690	81T	700	82T	1180	
33	3.223	4	193.000	178.000									
1180	84C	450	47C	460	48C	470	64T	590	65C	600	70C	660	70T
620	68T	570	63T	590	64T	470	49T	480	50T	490	59T	550	60T
553	93T	554	103T	555	105T	556	104T	770	113T	870	129T	1030	128C
1000	153T	1150	149C	1140	150C	1130	151C	1120	145T	970	124C	1060	125C
1060	126C	1000											
12	15.314	4	193.000	178.000									
1000	152T	750	97T	740	96T	110	9T	20	1T	1400	3T	1410	2T
1430	7T	1820	6T	2050	5T	1790	8T	1800					
14	15.548	4	193.000	178.000									
1800	8T	1790	5T	2050	6T	1820	7T	1430	4T	1420	2T	1410	3T
20	9T	110	96T	740	97T	750	152T	1900	127T	1010	128T	1030	1T
29	2.784	4	193.000	178.000									
1030	128C	1010	127C	1000	153T	1150	149C	1140	150C	1130	151C	1120	145T
1060	125C	1080	125T	1060	126C	1000	152T	750	97T	740	91T	730	90T
724	88T	720	87T	691	85T	690	81T	700	82T	1180	84C	450	47C
470	64T	590	65C	600	70C	660	70T	600	66C	620			
22	16.817	4	193.000	178.000									
620	69T	640	71T	460	47T	450	84T	1180	82T	700	81T	690	85T
720	88T	724	89T	725	90T	730	91T	740	96T	110	97	20	1T
1410	2T	1420	4T	1430	7T	1820	6T	2050	5T	1790	8T	1800	3T
9	1.231	5	193.000	186.000									

726	92T	724	88T	720	87T	691	85T	690	80T	670	79T	550	59T	490	50T
480	49T	470	1.670	5	193.0 00	186.000	45C	410	72C	710	72T	410	46C		
21						620	67C	390	44C	370	330	57T	130	14T	
470	64C	590	63C	570	68C	620	67T	390	44C	370	330	57T	130	14T	
450	47T	460	71C	640	69C	620	67T	390	44C	370	330	57T	130	14T	
120	25T	200	35C	310	36C	320	37C	280	32C	100					
12	16.	968	5	193.0 00	186.000										
100	12T	90	11T	80	10T	110	9T	20	1T	1400	3T	1410	2T	1420	4T
1430	7T	1620	6T	2050	5T	1790	8T	1600							
12	16.968	5	193.0 00	186.000											
1800	8T	1790	5T	2050	6T	1820	7T	1430	4T	1420	2T	1410	3T	1400	1T
20	9T	110	10T	80	11T	90	12T	100							
21	1.784	5	193.0 00	186.000											
100	32C	260	37C	320	36C	310	35C	200	25T	120	14T	130	57T	330	43T
370	44C	390	67C	620	68C	570	63C	590	64C	470	48T	460	71C	640	69C
620	67T	390	45C	410	72T	710	72C	410	46C	450					
19	16.526	5	193.0 00	186.000											
450	84T	1180	82T	700	81T	690	85T	691	87T	720	88T	724	89T	725	90T
730	91T	740	96T	110	9T	20	1T	1400	3T	1410	2T	1420	4T	1430	7T
1620	6T	2050	5T	1790	6T	1800									
8	1.216	6	193.0 00	192.000											
726	92T	724	88T	720	87T	691	85T	690	80T	670	79T	550	59T	490	50T
545															
30	2.795	6	193.0 00	192.000											
545	75C	540	74T	530	73T	155	17T	150	18C	160	19C	170	20C	180	21C
190	24C	182	23C	180	21T	190	22C	140	15T	130	14T	120	25C	200	26C
210	27C	230	28C	240	29C	260	30C	270	31C	280	37T	320	36T	310	38C
230	28T	240	39C	320	37T	280	31T	270	33C	300	34C	280			
13	17.026	6	193.0 00	192.000											
280	32T	100	12T	90	11T	80	10T	110	9T	20	1T	1400	3T	1410	2T
1420	4T	1430	7T	1820	6T	2050	5T	1790	6T	1600					
15	17.132	6	193.0 00	192.000											
1800	8T	1790	5T	2050	6T	1820	7T	1430	4T	1420	2T	1410	3T	1400	1T
20	9T	110	10T	80	11T	90	12T	100	32T	280	37T	320	36T	310	
34	3.367	6	193.0 00	192.000											
310	38C	230	28C	240	29C	260	30C	270	31C	280	34C	300	33C	270	31T
280	37T	320	39C	240	28T	230	27C	210	26C	200	25C	120	14T	130	15T
140	22C	190	24C	182	23C	180	20C	170	19C	160	18C	150	17T	155	17T
530	74T	540	75C	545	7T	540	74T	530	73T	155	17T	150	18T	160	19T

2050	155C	2060	156C	2090	180T	2190	181C	2180	179C	2170	176C	2161	187C	2210	186C	
2220	184C	2160	177T	2161	187T	2210	185C	2190	180T	2090	157C	2000	158T	1860	163C	
1840	161C	1630	162T	1820	7T	1430	4T	1420	2T	1410	3T	1400	1T	20	9T	
110	96T	740	91T	730	90T	725	95T	554	93T	553	94T	551	60T	550	59C	
490	50C	480	61C	370	43C	330	57C	130	57T	330	43T	370	62C	570	63T	
590	64T	470	49C	480												
18	16.	586	8	193.	000	180.	000									
480	50T	490	59T	550	60T	551	94T	553	93T	554	95T	725	90T	730	91T	
740	96T	110	91	20	1T	1400	3T	1410	2T	1420	4T	1430	7T	1820	6T	
2050	5T	1790	8T	1800												
7/8/9	(END OF RECORD)															

APPENDIX F

RCSP SCHEDULE

SECTION	TRIP	DISTANCE (MILES)	TIME (MINUTES)	HOUSEHOLDS	CAPACITY (HOUSEHOLDS)	LOAD
1	1	19.6	146.4	184	193.0	186.0
1	2	16.9	147.0	186	193.0	186.0
2	1	18.4	136.2	190	193.0	190.0
2	2	32.8	156.4	190	193.0	190.0
3	1	19.2	143.4	190	193.0	190.0
3	2	33.6	162.2	190	193.0	190.0
4	1	19.6	131.0	178	193.0	178.0
4	2	35.2	151.7	178	193.0	178.0
5	1	19.9	136.7	186	193.0	186.0
5	2	35.3	154.8	186	193.0	186.0
6	1	21.0	146.2	192	193.0	192.0
6	2	38.0	169.5	192	193.0	192.0
7	1	19.1	137.0	192	193.0	192.0
7	2	34.5	157.2	192	193.0	192.0
8	1	19.9	142.0	188	193.0	188.0
8	2	35.3	162.2	188	193.0	188.0

ONLY HALF OF THESE TRIPS WILL BE USED.

FINAL ROUTE SUMMARY

FAIRCHILD AFB

ROUTE	VEHICLE IDENTIFICATION	VEHICLE CAPACITY (HOUSEHOLDS)	SECTION(S) TRIP1 TRIP2	DISTANCE (MILES)	TIME (HRS:MIN)	HOUSEHOLDS SERVICED (HOUSEHOLDS)	REFUSE QUANTITY
1	10 CU YD VEHICLE	193.0	4	3	69.2	5435	360.0
2	10 CU YD VEHICLE	193.0	7	5	70.4	5434	378.0
3	10 CU YD VEHICLE	193.0	6	2	68.7	5436	376.0
4	10 CU YD VEHICLE	193.0	6	1	56.0	5435	360.0
		TOTALS	264.3	22422	1584		1504.0

ROUTE 1 FAIRCHILD AFB

10 CU YD VEHICLE

ACTION	SPEED (MPH)	TIME (HRS:MIN)	DISTANCE (MILES)	HOUSEHOLDS SERVICED	LOAD (PCT)
LEAVE GARAGE					
DRIVE ON 5TH AVE					
DRIVE ON FAIRCHILD ST					
DRIVE ON MARCH ST					
DRIVE ON OFFUTT DR					
PICK UP ON EOTH SIDES PENNSYLVANIA ST					
PICK UP ON EOTH SIDES PENNSYLVANIA ST					
PICK UP ON EOTH SIDES PENNSYLVANIA ST					
DRIVE ON COLORADO AVE					
DRIVE ON COLORADO AVE					
PICK UP ON EOTH SIDES CAROLINA DR					
DRIVE ON CAROLINA DR					
PICK UP ON EOTH SIDES CAROLINA DR					
DRIVE ON OHIO ST					
DRIVE ON COLORADO AVE					
DRIVE ON PENNSYLVANIA ST					
DRIVE ON MAINE AVE					
DRIVE ON MAINE AVE					
DRIVE ON CASTLE ST					
DRIVE ON 6TH AVE					
DRIVE ON BONG ST					
DRIVE ON BONG ST					
DRIVE ON ELM ST					
DRIVE ON ELM ST					
PICK UP ON EOTH SIDES S MAPLE ST					
DRIVE ON S MAPLE ST					
PICK UP ON S MAPLE ST					
DRIVE ON S MAPLE ST					
PICK UP ON POPLAR AVE					
PICK UP ON POPLAR AVE					
PICK UP ON EOTH SIDES PALM DR					
PICK UP ON EOTH SIDES PALM DR					
PICK UP ON EOTH SIDES PALM DR					
PICK UP ON EOTH SIDES PALM DR					
PICK UP ON EOTH SIDES CEDAR ST					
PICK UP ON EOTH SIDES N MAPLE ST					
PICK UP ON EOTH SIDES N MAPLE ST					
DRIVE ON CEDAR ST					
DRIVE ON N MAPLE ST					
DRIVE ON POPLAR AVE					
DRIVE ON MITCHELL ST					
SUNSET HIGHWAY					
TO SUNSET HIGHWAY					
TO HALEY ROAD					
TO HALEY ROAD					
TO HENRY ROAD					
TO HENRY ROAD					
TO SPOKANE ROAD					
TO SPOKANE ROAD					
TO LAND FILL					
UNLOAD					
LEAVE LAND FILL					
DRIVE ON SPOKANE ROAD					
DRIVE ON HENRY ROAD					
DRIVE ON HALEY ROAD					
DRIVE ON SUNSET HIGHWAY					
TO SUNSET HIGHWAY					
TO MITCHELL ST					
10:11 TO 10:21					
10:21					
10:25					
10:26					
10:30					
10:34					
10:40					
5:9					

ACTION	SPEED (MPH)	TIME (HR:MIN)	DISTANCE (MILES)	HOUSEHOLDS SERVICED	LOAD (PCT)
DRIVE ON					
PICK LP ON BOTH SIDES POPLAR AVE	30	10:41	.2	3	1
PICK LP ON BOTH SIDES POPLAR AVE	5	10:43	0	2	2
PICK LP ON BOTH SIDES PALM OR	5	10:45	1	2	6
PICK LP ON BOTH SIDES PALM OR	5	10:49	1	5	6
PICK LP ON BOTH SIDES PALM OR	5	10:54	1	6	10
PICK LP ON BOTH SIDES PALM OR	5	10:57	0	4	12
PICK LP ON BOTH SIDES CEDAR ST	5	11:00	1	6	16
PICK LP ON BOTH SIDES S MAPLE ST	5	11:03	1	5	16
PICK LP ON BOTH SIDES S MAPLE ST	5	11:13	1	16	26
PICK LP ON BOTH SIDES ELM ST	5	11:16	1	6	30
PICK LP ON BOTH SIDES ELM ST	5	11:21	1	6	33
PICK LP ON BOTH SIDES OAK ST	5	11:21	1	7	33
PICK LP ON BOTH SIDES OAK ST	5	11:37	2	26	46
DRIVE ON					
N MAPLE ST	15	11:37	1	48	46
SYCAMORE ST	15	11:36	2	46	46
OAK ST	15	11:36	1	48	48
OAK ST	15	11:39	2	48	48
TO S MAPLE ST	5	11:41	1	2	49
TO OAK ST	5	11:43	1	2	50
TO 9TH AVE	5	11:43	1	17	54
TO LINDEN ST	5	11:48	1	6	54
TO S MAPLE ST	5	11:53	1	6	58
TO WALNUT ST	5	12:06	.2	21	69
12:06 TO 12:36					
DRIVE ON					
ELM ST	5	12:43	1	12	75
PICK LP ON BOTH SIDES S MAPLE ST	5	12:47	1	6	78
PICK LP ON BOTH SIDES OAK ST	5	12:57	1	17	87
PICK LP ON BOTH SIDES 9TH AVE	5	13:03	1	9	92
PICK LP ON BOTH SIDES LINDEN ST	5	13:03	2	92	92
PICK LP ON BOTH SIDES LINDEN ST	5	13:07	1	5	94
PICK LP ON BOTH SIDES S MAPLE ST	5	13:07	1	94	94
PICK LP ON BOTH SIDES LINDEN ST	5	13:07	1	94	94
PICK LP ON BOTH SIDES 9TH AVE	5	13:09	0	2	95
PICK LP ON BOTH SIDES ELM ST	5	13:12	1	5	98
DRIVE ON					
ELM ST	15	13:12	1	98	98
9TH AVE	15	13:13	2	98	98
MITCHELL ST	15	13:14	3	98	98
SUNSET HIGHWAY	30	13:20	5-9	98	98
TO MALLET ROAD	45	13:24	3-2	98	98
TO HENRY ROAD	45	13:26	1-0	98	98
TO SPOKANE ROAD	40	13:29	2-0	98	98
TO LAND FILL	40	13:33	3-8	98	98
UNLOAD					
DRIVE ON					
SPOKANE ROAD	40	13:40	3-8		
HENRY ROAD	40	13:51	2-0		
MALLET ROAD	45	13:52	1-0		
TO SUNSET HIGHWAY	45	13:56	3-2		
TO MITCHELL ST	55	14:03	5-9		
TO FAIRCHILD ST	30	14:03	1-1		
TO 5TH AVE	30	14:04	5		
TO GARAGE	30	14:05	1-3		

ROUTE 2 FAIRCHILD AFB

10 CU YD VEHICLE

ACTION	TIME (HR:MIN)	DISTANCE (MILES)	HOUSEHOLDS SERVICED	LOAD (PCTS)
LEAVE GARAGE	08:00			
DRIVE ON 5TH AVE	08:01	.3		
FAIRCHILD ST	08:01	.3		
MARCH ST	08:01	.3		
OFFUTT DR	08:02	.3		
DRIVE ON 5TH AVE	08:02	.3		
DRIVE ON 5TH SIDES PENNSYLVANIA ST	08:02	.3		
DRIVE ON 5TH SIDES PENNSYLVANIA ST	08:02	.3		
DRIVE ON 5TH SIDES PENNSYLVANIA ST	08:02	.3		
DRIVE ON 5TH SIDES NEBRASKA AVE	08:02	.3		
PICK LP ON 5TH SIDES CALIFORNIA ST	08:02	.3		
PICK LP ON 5TH SIDES CALIFORNIA ST	08:02	.3		
PICK LP ON 5TH SIDES LOUISIANA AVE	08:02	.3		
PICK LP ON 5TH SIDES PENNSYLVANIA ST	08:02	.3		
DRIVE ON 5TH SIDES GEORGIA AVE	08:02	.3		
DRIVE ON 5TH SIDES CALIFORNIA ST	08:02	.3		
PICK LP ON 5TH SIDES CALIFORNIA ST	08:02	.3		
PICK LP ON 5TH SIDES MAINE AVE	08:02	.3		
DRIVE ON 5TH SIDES MAINE AVE	08:02	.3		
DRIVE ON 5TH SIDES MAINE AVE	08:02	.3		
DRIVE ON 5TH SIDES CASTLE ST	08:02	.3		
DRIVE ON 5TH SIDES FAIRCHILD ST	08:02	.3		
DRIVE ON 5TH SIDES MITCHELL ST	08:02	.3		
DRIVE ON 5TH SIDES SUNSET HIGHWAY	08:02	.3		
DRIVE ON 5TH SIDES SUNSET HIGHWAY	08:02	.3		
DRIVE ON 5TH SIDES HAMLET ROAD	08:02	.3		
DRIVE ON 5TH SIDES HAMLET ROAD	08:02	.3		
DRIVE ON 5TH SIDES HENRY ROAD	08:02	.3		
DRIVE ON 5TH SIDES SPOKANE ROAD	08:02	.3		
DRIVE ON 5TH SIDES SPOKANE ROAD	08:02	.3		
UNLOAD LEAVE LANE FILL	10:17	10:17		
DRIVE ON SPOKANE ROAD	10:32	3.0		
DRIVE ON HENRY ROAD	10:35	2.0		
DRIVE ON HAMLET ROAD	10:36	1.0		
DRIVE ON SUNSET HIGHWAY	10:40	3.2		
DRIVE ON GRAHAM RD	10:48	7.0		
DRIVE ON SUMSET HIGHWAY	10:49	0.6		
DRIVE ON GRAHAM RD	10:51	0.0		
PICK LP ON 5TH SIDES UTAH OR NORTH	10:51	2		
PICK LP ON 5TH SIDES IDAHO ST	10:54	1		
PICK LP ON 5TH SIDES NEVADA ST	10:57	4		
PICK LP ON 5TH SIDES IOWA ST	10:57	6		
PICK LP ON 5TH SIDES UTAH OR SOUTH	11:01	6		
DRIVE ON GRAHAM RD	11:01	9		
DRIVE ON MAINE AVE	11:01	9		
DRIVE ON CALIFORNIA ST	11:01	9		
PICK LP ON 5TH SIDES CALIFORNIA ST	11:02	9		
PICK LP ON 5TH SIDES CAROLINA DR	11:18	2		
PICK LP ON 5TH SIDES OHIO ST	11:22	6		
PICK LP ON 5TH SIDES COLORADO AVE	11:29	12		
PICK LP ON 5TH SIDES COLORADO AVE	11:37	13		

ACTION	SPEED (MPH)	TIME (HRS:MIN)	DISTANCE (MILES)	HOUSEHOLDS SERVICED	LOAD (PCT)
PICK UP ON 60TH SIDES COLORADO AVE	5	1:18:41	.1	6	44
DRIVE ON 60TH SIDES PENNSYLVANIA ST	15	1:18:42	.2	6	44
PICK UP ON 60TH SIDES MICHIGAN AVE	5	1:28:02	.2	36	62
BREAK FOR LUNCH		1:24:02 TO 1:28:32			
PICK UP ON 60TH SIDES OHIO ST	5	1:28:35	.1	6	65
DRIVE ON 60TH SIDES CAROLINA DR	15	1:28:36	.1	6	65
PICK UP ON 60TH SIDES CALIFORNIA ST	5	1:28:46	.1	18	75
DRIVE ON 60TH SIDES CALIFORNIA ST	15	1:28:46	.0	75	75
PICK UP ON 60TH SIDES DAKOTA AVE	5	1:28:47	.0	2	76
DRIVE ON 60TH SIDES PENNSYLVANIA ST	5	1:38:09	.2	39	96
DRIVE ON 60TH SIDES OFFUTT DR	15	1:38:10	.0	96	96
DRIVE ON 60TH SIDES MARCH ST	30	1:38:10	.2	96	96
DRIVE ON 60TH SIDES FAIRCHILD ST	30	1:38:10	.3	96	96
DRIVE ON 60TH SIDES FAIRCHILD ST	30	1:38:12	.8	96	96
DRIVE ON 60TH SIDES MITCHELL ST	30	1:38:12	.1	96	96
DRIVE ON 60TH SIDES SUNSET HIGHWAY	55	1:38:19	5.9	96	96
DRIVE ON 60TH SIDES SUNSET HIGHWAY	55	1:38:23	3.2	96	96
DRIVE ON 60TH SIDES HALLET ROAD	45	1:38:24	1.0	96	96
DRIVE ON 60TH SIDES HALLET ROAD	40	1:38:27	2.0	96	96
DRIVE ON 60TH SIDES HENRY ROAD	40	1:38:32	3.0	96	96
DRIVE ON 60TH SIDES HENRY ROAD	40	1:38:42			
DRIVE ON 60TH SIDES SPOKANE ROAD	40	1:38:46			
DRIVE ON 60TH SIDES SPOKANE ROAD	40	1:38:49			
DRIVE ON 60TH SIDES HENRY ROAD	45	1:38:51			
DRIVE ON 60TH SIDES HALLET ROAD	45	1:38:55			
DRIVE ON 60TH SIDES SUNSET HIGHWAY	55	1:48:01			
DRIVE ON 60TH SIDES SUNSET HIGHWAY	30	1:48:02			
DRIVE ON 60TH SIDES MITCHELL ST	30	1:48:03			
DRIVE ON 60TH SIDES FAIRCHILD ST	30	1:48:03			
DRIVE ON 60TH SIDES 5TH AVE	30	1:48:03			
DRIVE ON 60TH SIDES 5TH AVE	30	1:48:03			
UNLOAD		1:38:32 TO 1:38:42			
DRIVE ON 60TH SIDES SPOKANE ROAD					
DRIVE ON 60TH SIDES HENRY ROAD					
DRIVE ON 60TH SIDES HALLET ROAD					
DRIVE ON 60TH SIDES SUNSET HIGHWAY					
DRIVE ON 60TH SIDES MITCHELL ST					
DRIVE ON 60TH SIDES FAIRCHILD ST					
DRIVE ON 60TH SIDES 5TH AVE					
DRIVE ON 60TH SIDES 5TH AVE					

ROUTE 3 FAIRCHILD AFB

10 CU YD VEHICLE

ACTION	TIME (HR:MIN)	DISTANCE (MILES)	HOUSEHOLDS SERVICED	LOAD (PCT)
LEAVE GARAGE	8:00			
DRIVE ON 5TH AVE	8:01	.3		
FAIRCHILD ST	8:01	.3		
MARCH ST	8:02	.3		
TO OFFUTT DR				
TO MAINE AVE				
TO PENNSYLVANIA ST				
TO WASHINGTON AVE				
TO COLORADO AVE				
TO OHIO ST				
TO WASHINGTON AVE				
TO MAINE AVE				
TO GRAHAM RD				
TO CALIFORNIA ST				
TO MINNESOTA PL				
TO PENNSYLVANIA ST				
TO MAINE AVE				
TO OFFUTT DR				
TO CASTLE ST				
TO FAIRCHILD ST				
TO MITCHELL ST				
TO SUNSET HIGHWAY				
TO HALET ROAD				
TO HENRY ROAD				
TO ARMSTRONG DRIVE				
TO FANAZICK DRIVE				
TO JOHN GAY DRIVE				
TO SMITH DRIVE				
TO MALSTROM DRIVE				
TO MORTMAN PLACE				
TO EICHENBURGER PLACE				
TO MALSTROM DRIVE				
TO MALSTROM DRIVE				
TO HARDER PLACE				
TO MORTMAN PLACE				
TO MALSTROM DRIVE				
TO JOHN GAY DRIVE				
TO FANAZICK DRIVE				
TO HENRY ROAD				
TO SPOKANE ROAD				
TO LAND FILL				
UNLOAD				
LEAVE LAND FILL				
DRIVE ON SPOKANE ROAD				
TO HENRY ROAD				
TO HENRY ROAD	10:32	10.32	3.0	
TO HENRY ROAD	10:37	10.37	3.0	

ACTION	SPEED (MPH)	TIME (HR:MIN)	DISTANCE (MILES)	HOUSEHOLDS SERVICED	LOAD (PCT)
DRIVE ON HENRY ROAD	40	10:40	2.0		
DRIVE ON HALLET ROAD	45	10:41	1.0		
DRIVE ON	45	10:45	3.2		
DRIVE ON SUNSET HIGHWAY	55	10:52	5.9		
DRIVE ON MITCHELL ST	55	10:52	5.9		
DRIVE ON POPLAR AVE	30	10:52	0.2		
DRIVE ON PALM DR	15	10:52	0.2		
DRIVE ON TO CEDAR ST	15	10:53	0.2		
PICK UP ON BOTH SIDES CEDAR ST	5	11:07	0.2	24	
PICK UP ON BOTH SIDES CEDAR ST	5	11:13	0.1	10	
DRIVE ON CEDAR ST	15	11:13	0.1	17	
DRIVE ON S MAPLE ST	15	11:13	0.1	17	
DRIVE ON TO ELM ST	15	11:13	0.1	17	
PICK LP ON BOTH SIDES ELM ST	15	11:13	0.1	17	
PICK LP ON BOTH SIDES PINE ST	5	11:31	0.2	30	
PICK LP ON BOTH SIDES PINE ST	5	11:31	0.2	33	
PICK LP ON BOTH SIDES N MAPLE ST	5	11:38	0.1	12	
PICK LP ON BOTH SIDES N MAPLE ST	5	11:42	0.1	7	
PICK LP ON BOTH SIDES N MAPLE ST	5	11:46	0.1	7	
PICK LP ON BOTH SIDES N MAPLE ST	5	11:47	0.0	2	
PICK LP ON BOTH SIDES ELM ST	5	11:51	0.1	7	
PICK LP ON BOTH SIDES ELM ST	5	12:05	0.1	25	
BREAK FOR LUNCH	12:05 TO 12:35				
PICK LP ON BOTH SIDES ELM ST	5	12:44	0.1	14	
PICK LP ON BOTH SIDES ELM ST	5	12:44	0.1	14	
DRIVE ON OAK ST	5	12:47	0.1	5	
PICK LP ON BOTH SIDES SYCAMORE ST	15	12:47	0.1	74	
PICK LP ON BOTH SIDES SYCAMORE ST	5	12:53	0.1	10	
DRIVE ON TO N MAPLE ST	5	12:53	0.1	79	
DRIVE ON TO PINE ST	15	13:06	0.1	23	
PICK LP ON BOTH SIDES N MAPLE ST	15	13:07	0.1	91	
PICK LP ON BOTH SIDES N MAPLE ST	5	13:13	0.1	91	
PICK LP ON BOTH SIDES CEDAR ST	5	13:15	0.1	10	
DRIVE ON TO PALM DR	15	13:16	0.2	98	
DRIVE ON TO POPLAR AVE	15	13:17	0.1	98	
DRIVE ON TO MITCHELL ST	30	13:17	0.2	98	
DRIVE ON TO SUNSET HIGHWAY	55	13:23	5.9		
DRIVE ON TO HALLET ROAD	45	13:28	3.2		
DRIVE ON TO HENRY ROAD	45	13:29	1.0		
DRIVE ON TO SPOKANE ROAD	40	13:32	2.0		
DRIVE ON TO LAND FILL	40	13:36	3.0		
UNLOAD		13:36 TO 13:46			
DRIVE ON SPOKANE ROAD	40	13:51	3.0		
DRIVE ON HENRY ROAD	40	13:54	2.0		
DRIVE ON HALLET ROAD	45	13:55	1.0		
DRIVE ON TO SUNSET HIGHWAY	45	14:00	3.2		
DRIVE ON TO MITCHELL ST	55	14:06	5.9		
DRIVE ON TO FAIRCHILD ST	30	14:06	0.1		
DRIVE ON TO 5TH AVE	30	14:07	0.5		
DRIVE ON TO GARAGE	30	14:08	0.3		

ROUTE 4 FAIRCHILD AFB

10 CU YD VEHICLE

ACTION	TIME (HRS:MIN)	SPEED (MPH)	TIME (HRS:MIN)	DISTANCE (MILES)	HOUSEHOLDS SERVICED (PCT)	LOAD (PCT)
LEAVE GARAGE						
DRIVE ON 5TH AVE	8:00	30	8:01	.3		
FAIRCHILD ST	8:01	30	8:01	.3		
MARCH ST	8:02	30	8:02	.3		
DRIVE ON OFFUTT DR	8:02	30	8:02	.3		
CASTLE ST	8:03	30	8:03	.1		
DRIVE ON GALVESTON AVE	8:03	15	8:06	.2	2	1
GRANT ST	8:06	15	8:07	.1		
DRIVE ON EL PASO AVE	8:07	15	8:07	.1		
EL PASO AVE	8:07	15	8:07	.1		
GRAHAM RD	8:07	30	8:07	.1		
DRIVE ON FIRST ST	8:07	30	8:20	.2	21	11
43RD ST	8:20	5	8:23	.0	4	13
TO ARTILLERY CIRCLE	8:23	5	8:24	.0	3	15
TO ARTILLERY CIRCLE	8:24	5	8:29	.1	6	18
TO UTAH OR SOUTH	8:29	5	8:33	.1	7	22
TO IDAHO ST	8:33	5	8:36	.1	5	24
TO UTAH OR WEST	8:36	5	8:37	.1	5	24
TO IOWA ST	8:37	15	8:38	.0	2	25
TO NEVADA ST	8:38	15	8:39	.3		
TO UTAH OR NORTH	8:39	30	8:40	.0		
TO OREGON OR	8:40	5	8:52	.1	20	37
TO IDAHO ST	8:52	5	8:59	.1	12	43
TO UTAH OR WEST	8:59	5	9:02	.0	6	46
TO NEVADA ST	9:02	5	9:08	.0	10	51
TO UTAH OR NORTH	9:08	5	9:11	.0	6	54
TO OREGON OR	9:11	5	9:20	.1	14	62
TO IDAHO ST	9:20	15	9:20	.1		
TO IOWA ST	9:20	15	9:34	.2	24	74
TO UTAH OR WEST	9:34	15	9:35	.0		
TO NEVADA ST	9:35	15	9:50	.2	26	68
TO IDAHO ST	9:50	15	9:50	.1		
TO OREGON OR	9:50	15	9:50	.1		
TO OREGON OR	9:50	15	10:02	.2	20	98
TO IDAHO ST	10:02	5	10:04	.0	2	99
TO GRAHAM RD	10:04	15	10:05	.0		
TO SUNSET HIGHWAY	10:05	30	10:13	.7		
SUNSET HIGHWAY	10:13	55	10:17	.3		
TO HALLET ROAD	10:17	45	10:19	.0		
TO HENRY ROAD	10:19	45	10:22	.0		
TO SPOKANE ROAD	10:22	40	10:26	.0		
TO LAND FILL	10:26	40				
UNLOAD	10:26	TO 10:36				
LEAVE LAND FILL						
DRIVE ON SPOKANE ROAD						
DRIVE ON HENRY ROAD						
DRIVE ON JOHN GAY DRIVE						
DRIVE ON FANAZICK DRIVE						
DRIVE ON SMITH DRIVE						
DRIVE ON ARMSTRONG DRIVE						
PICK UP ON BOTH SIDES FANAZICK DRIVE						
PICK UP ON BOTH SIDES FANAZICK DRIVE						
PICK UP ON BOTH SIDES FANAZICK DRIVE						
PICK UP ON BOTH SIDES FANAZICK DRIVE						

ACTION	SPEED (MPH)	TIME (HR:MIN)	DISTANCE (MILES)	HOUSEHOLDS SERVICED	LOAD (PCT)
PICK LP ON BOTH SIDES	5	11:00	.1	2	13
DRIVE ON HENRY ROAD	40	11:00	.0		13
DRIVE ON HALLET ROAD	45	11:01	1.0		13
DRIVE ON MCCROY AVENUE	45	11:03	1.8		13
DRIVE ON FRIES STREET	15	11:04	.1		13
DRIVE ON JORDAN AVENUE	15	11:04	.1		13
DRIVE ON BUSH STREET	5	11:16	.1	20	23
DRIVE ON DEL VECCHIO AVENUE	15	11:16	.0		23
COMMANDERS DRIVE	15	11:16	.0		23
PICK UP ON BOTH SIDES	15	11:20	.1	6	26
PICK LP ON BOTH SIDES	5	11:25	.1	7	30
DRIVE ON COMMANDERS DRIVE	5	11:25	.1	30	30
PICK LP ON BOTH SIDES	15	11:27	.0	3	32
PICK LP ON BOTH SIDES	5	11:29	.1	2	33
PICK LP ON BOTH SIDES	15	11:29	.0		33
PICK LP ON BOTH SIDES	5	11:30	.0	2	34
PICK LP ON	5	11:31	.0	1	34
PICK LP ON	5	11:32	.0	1	35
PICK LP ON BOTH SIDES	15	11:32	.0		35
DRIVE ON COMMANDERS DRIVE	5	11:33	.0	2	36
PICK LP ON BOTH SIDES	15	11:33	.0		36
PICK LP ON DEL VECCHIO AVENUE	5	11:39	.1	10	41
PICK LP ON DEL VECCHIO AVENUE	5	11:44	.1	6	45
DRIVE ON FRIES STREET	15	11:44	.1		45
DRIVE ON JORDAN AVENUE	15	11:45	.1		45
DRIVE ON BUSH STREET	15	11:45	.1		45
COMMANDERS DRIVE	15	11:45	.1		45
PICK LP ON BOTH SIDES	15	11:53	.1	12	51
DRIVE ON FRIES STREET	15	11:53	.1		51
PICK LP ON BOTH SIDES	45	11:56	1.8		51
DRIVE ON HALLET ROAD	45	11:57	1.0		51
PICK LP ON BOTH SIDES	40	11:57	1.0		51
DRIVE ON HENRY ROAD	40	11:57	1.0		51
DRIVE ON ARMSTRONG DRIVE	15	11:57	.1		51
PICK LP ON BOTH SIDES	15	11:57	.1		51
DRIVE ON FANAZICK DRIVE	15	11:57	.1		51
PICK LP ON BOTH SIDES	5	12:00	.0	4	53
PICK LP ON BOTH SIDES	5	12:10	.1	16	62
BREAK FOR LUNCH	5	12:10 TO 12:40			
PICK LP ON BOTH SIDES	5	12:40	.1	14	69
PICK LP ON BOTH SIDES	5	12:50	.0	4	71
PICK UP ON BOTH SIDES	5	12:55	.0	6	75
DRIVE ON BURNS PLACE	15	12:56	.1		75
PICK LP ON BOTH SIDES	5	12:58	.0	4	77
DRIVE ON SMITH DRIVE	5	12:58	.0		77
PICK LP ON BOTH SIDES	5	13:00	.0	3	79
PICK LP ON BOTH SIDES	5	13:03	.0	4	81
DRIVE ON EICHENBURGER PLACE	15	13:04	.0		81
PICK LP ON BOTH SIDES	5	13:06	.0	3	82
PICK LP ON JOHN GAY DRIVE	5	13:07	.0	1	83
DRIVE ON MALSTROM DRIVE	15	13:07	.0		83
PICK LP ON BOTH SIDES	5	13:09	.1	3	84
PICK LP ON BOTH SIDES	5	13:10	.0	2	86
PICK LP ON BOTH SIDES	5	13:12	.0	2	87

ACTIVITY	SPEED (MPH)	TIME (MSPIN)	DISTANCE (MILES)	HOUSEHOLDS SERVICED	LOAD (PCT)
PICK LP ON EOTH SIEFS	5	13813	.9	3	88
PICK LP ON EOTH SIEFS	5	13817	.1	6	91
PICK LP ON EOTH SIEFS	5	13820	.1	5	94
DRIVE ON EOTH SIEFS	15	13821	.2		94
PICK LP ON EOTH SIEFS	5	13825	.1	6	97
DRIVE ON EOTH SIEFS	15	13826	.2		97
DRIVE ON EOTH SIEFS	40	13829	1.8		97
DRIVE ON SPOKANE ROAD	40	13833	2.4		97
UNLOAD		13833 TO 13843			
DRIVE ON SPOKANE ROAD	40	13848	3.1		
DRIVE ON HENRY ROAD	40	13851	2.9		
DRIVE ON HAMLET ROAD	45	13852	1.3		
DRIVE ON SUNSET HIGHWAY	45	13856	3.2		
DRIVE ON SUNSET HIGHWAY	55	14803	5.9		
DRIVE ON MITCHELL ST	30	14803	.1		
DRIVE ON FAIRCHILD ST	30	14804	.5		
DRIVE ON 5TH AVE	30	14805	.3		
DRIVE ON 5TH AVE					

APPENDIX G

RCSP ROUTE MAPS



FAIRCHILD AFB, WASH.

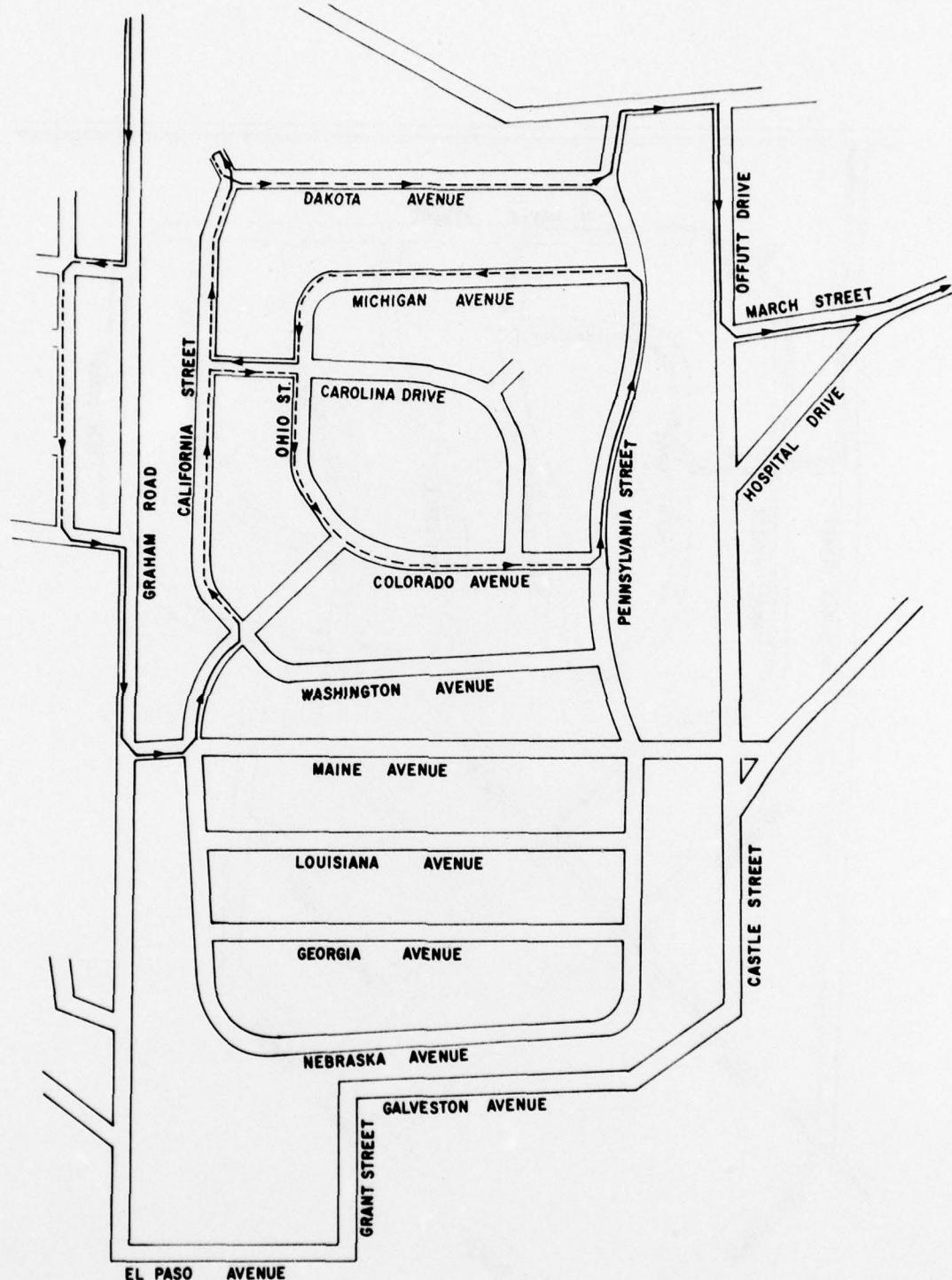
ROUTE 1 TRIP 1

10 CU YD VEHICLE

TRAVEL

COLLECT BOTH SIDES

COLLECT RIGHT SIDE

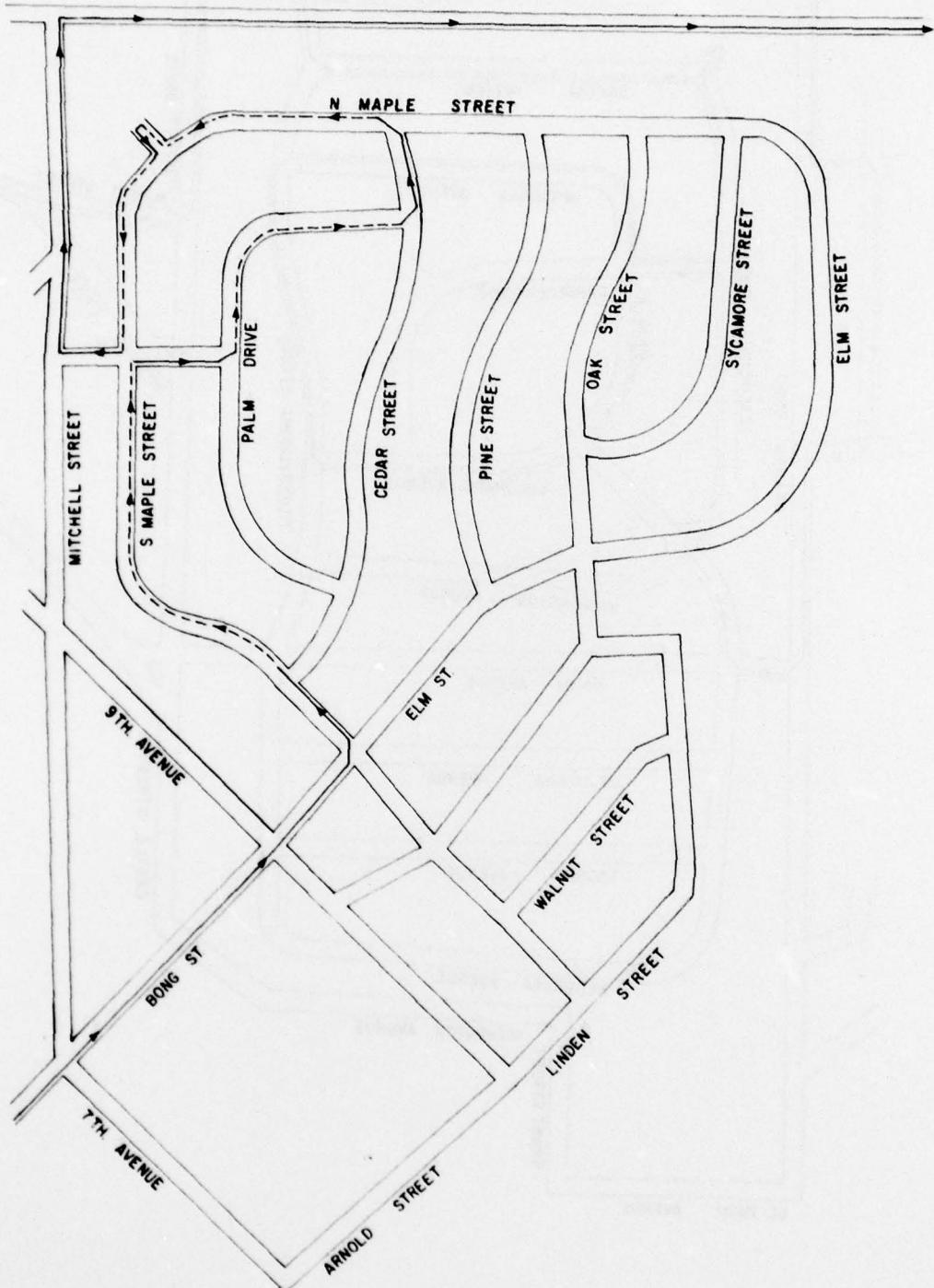


FAIRCHILD AFB, WASH.

ROUTE 1 TRIP 2
10 CU YD VEHICLE

TRAVEL

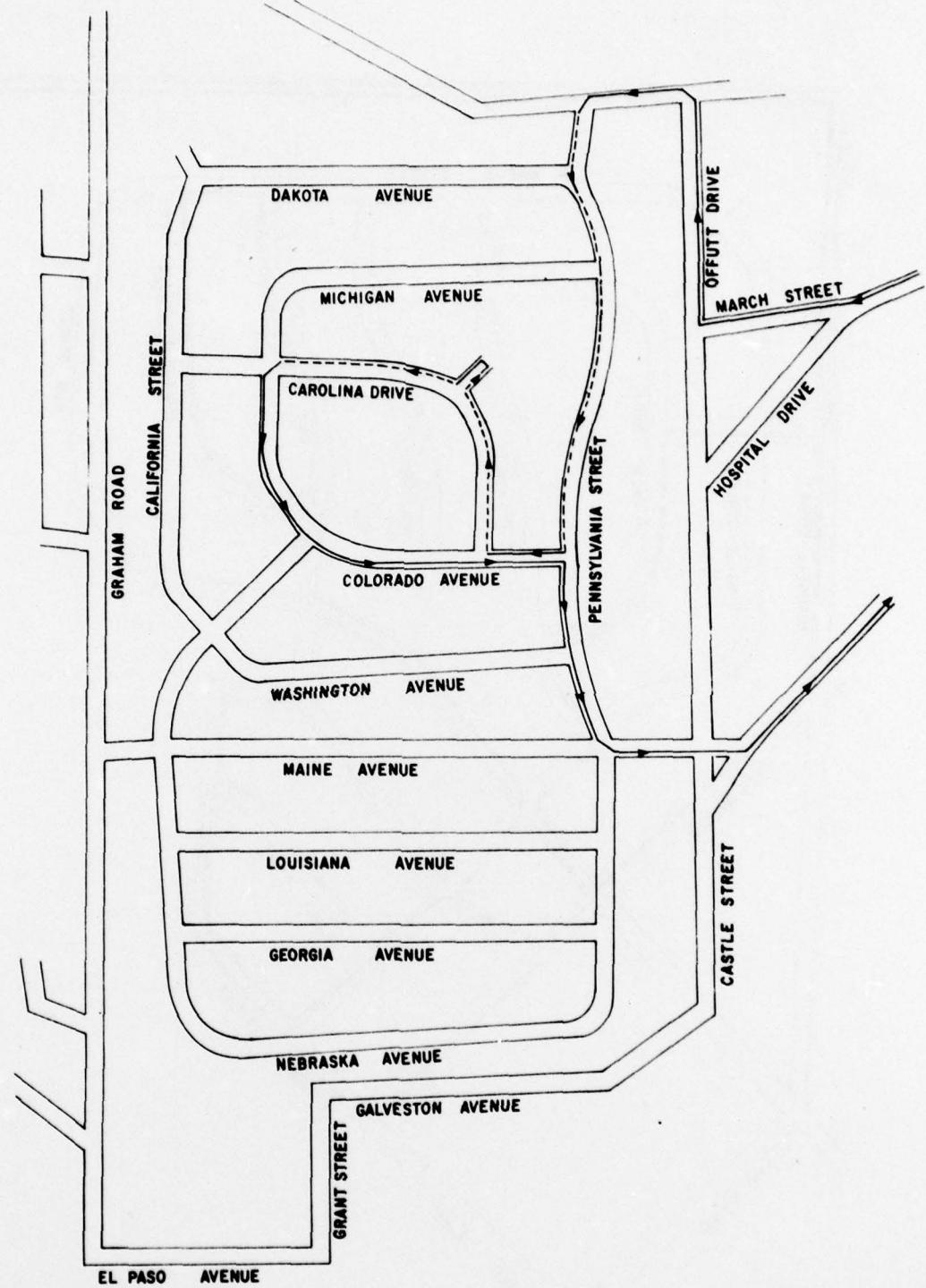
COLLECT BOTH SIDES
COLLECT RIGHT SIDE



FAIRCHILD AFB, WASH.

ROUTE 2 TRIP 1
10 CU YD VEHICLE

TRAVEL
COLLECT BOTH SIDES
COLLECT RIGHT SIDE

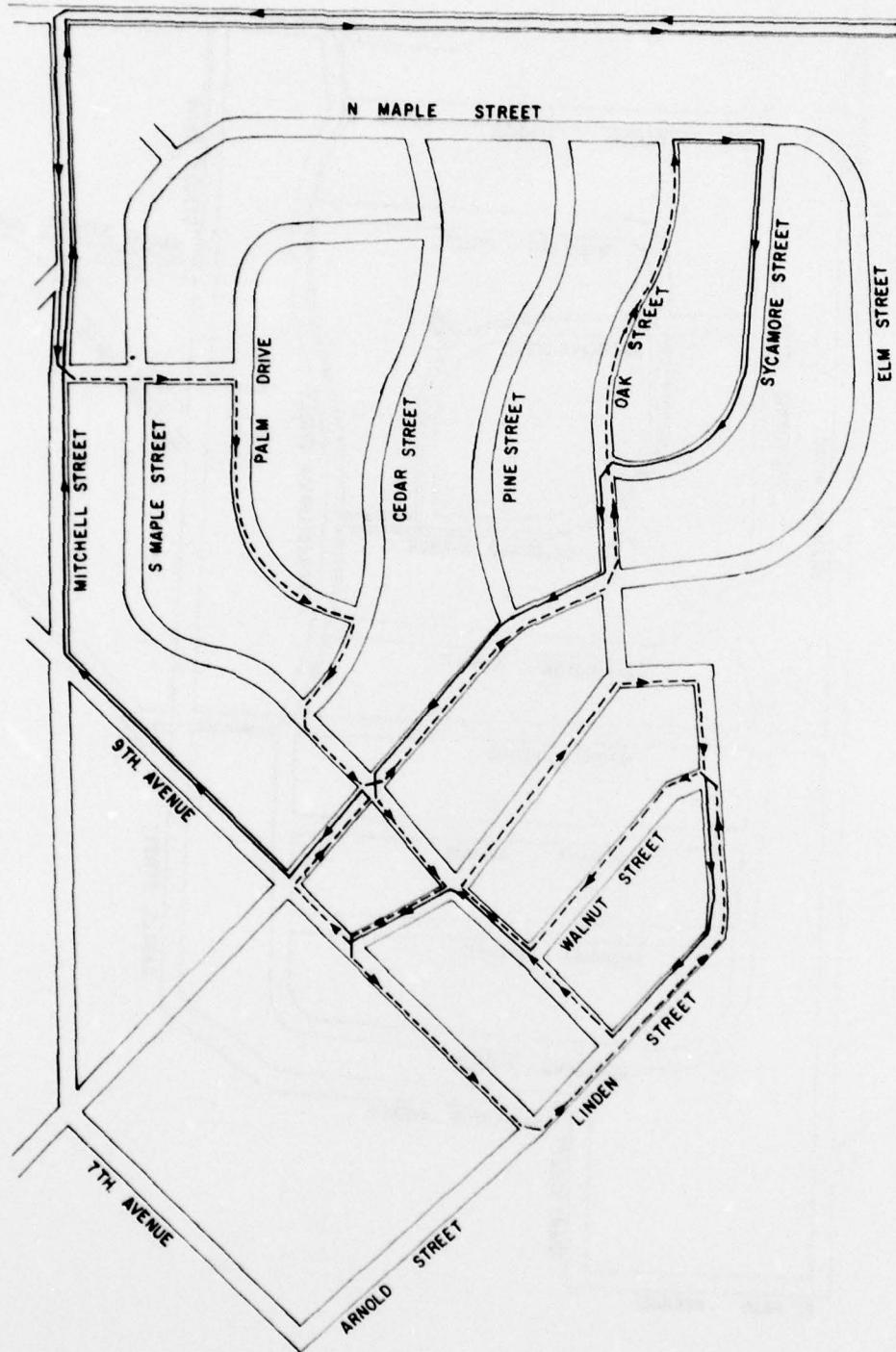


FAIRCHILD AFB, WASH.

ROUTE 2 TRIP 1
10 TU YD VEHICLE

TRAVEL

COLLECT BOTH SIDES
COLLECT RIGHT SIDE



FAIRCHILD AFB, WASH.

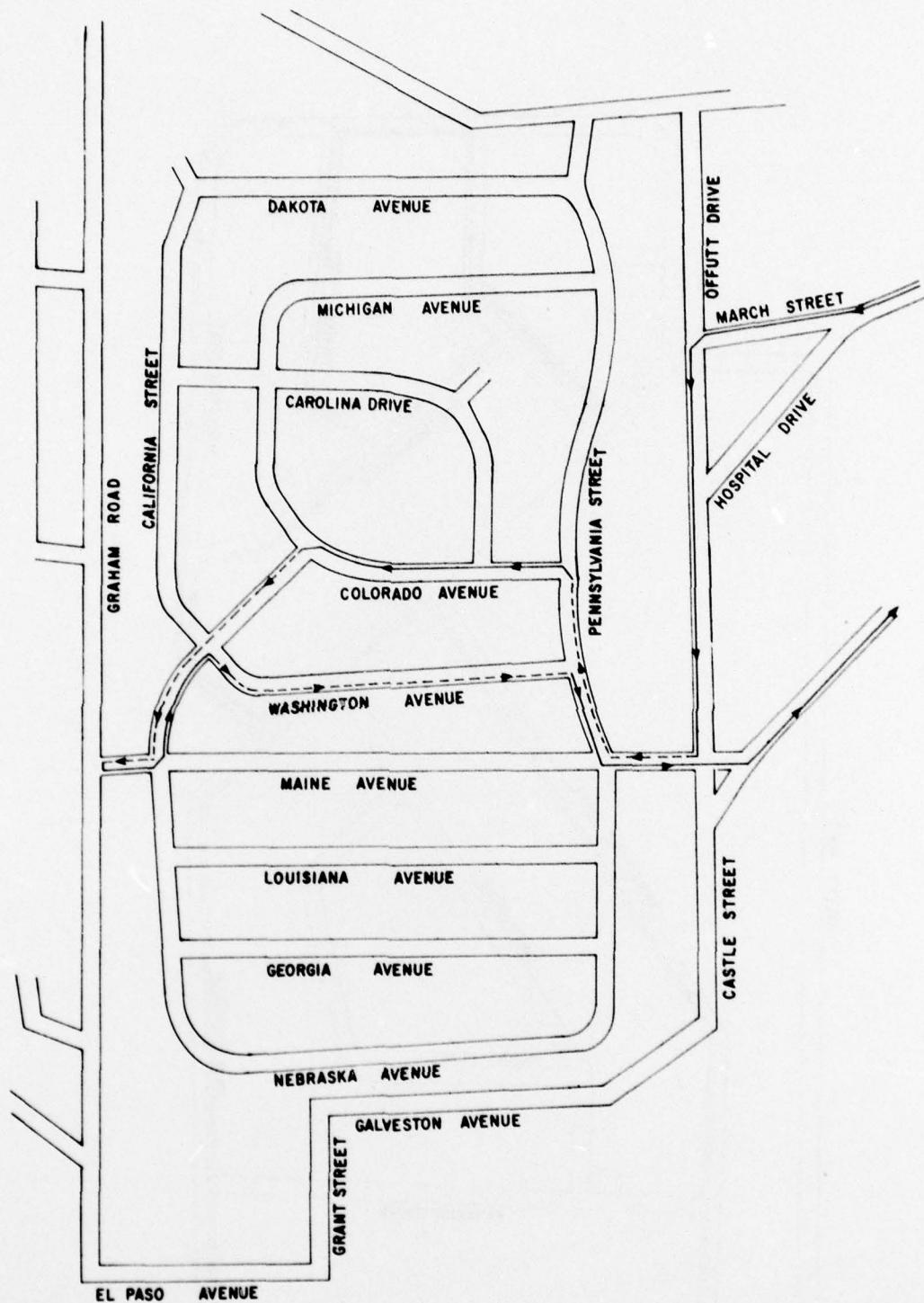
ROUTE 2 TRIP 2

10 CU YD VEHICLE

TRAVEL

COLLECT BOTH SIDES

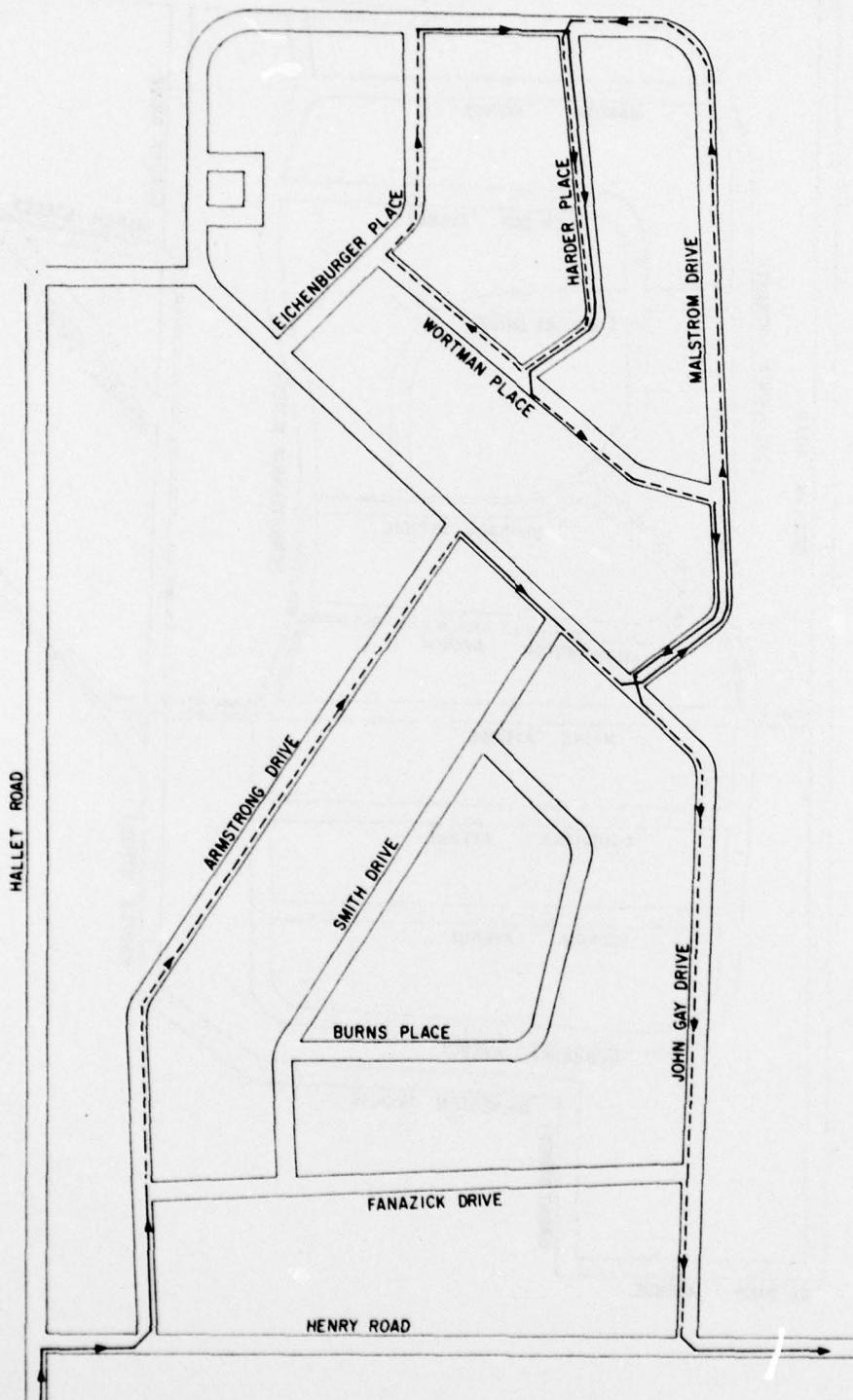
COLLECT RIGHT SIDE



FAIRCHILD AFB, WASH.

ROUTE 3 TRIP 1
10 CU YD VEHICLE

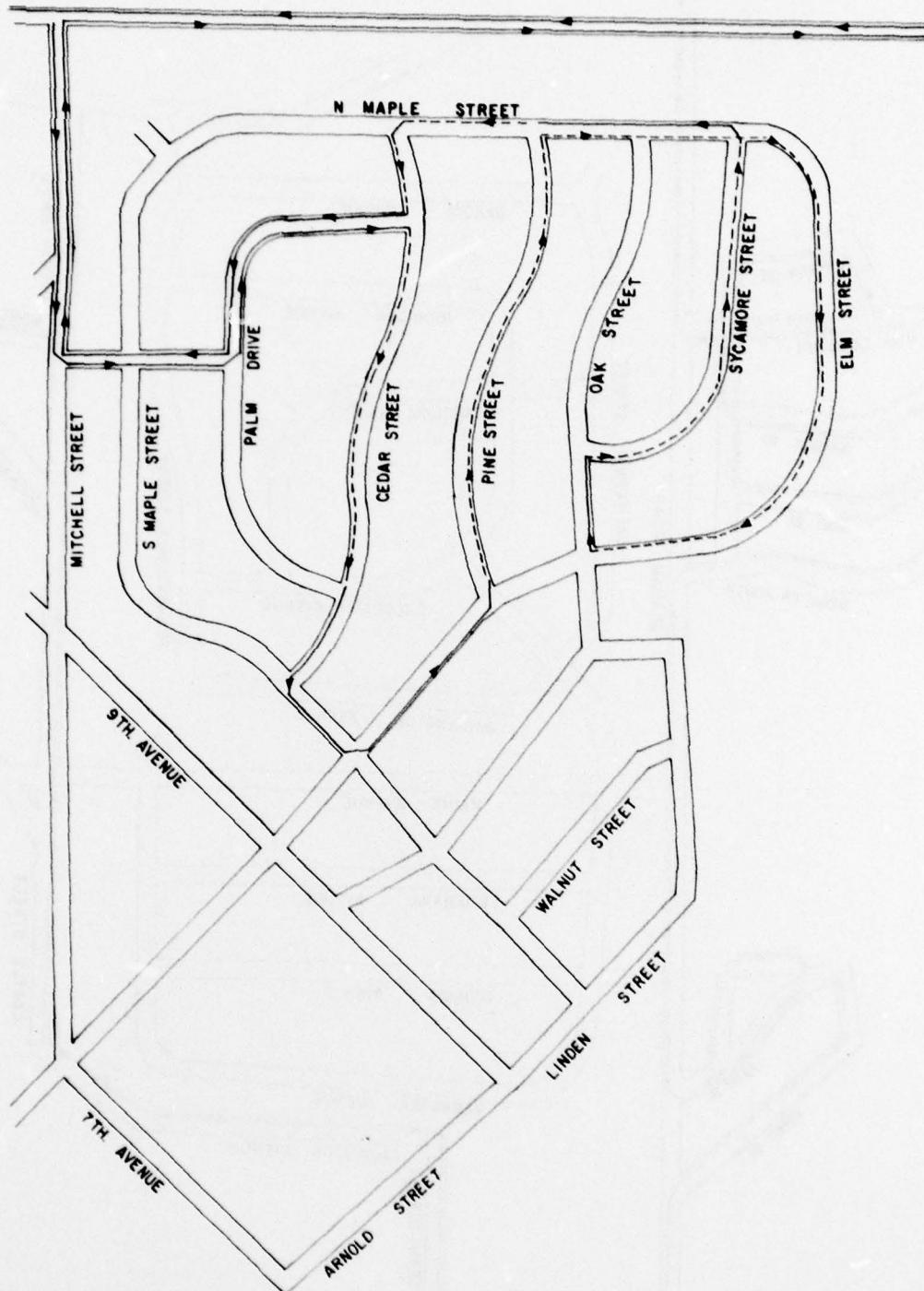
TRAVEL
COLLECT BOTH SIDES
COLLECT RIGHT SIDE



FAIRCHILD AFB, WASH.

ROUTE 3 TRIP 1
10 CU YD VEHICLE

TRAVEL
COLLECT BOTH SIDES
COLLECT RIGHT SIDE



FAIRCHILD AFB, WASH.

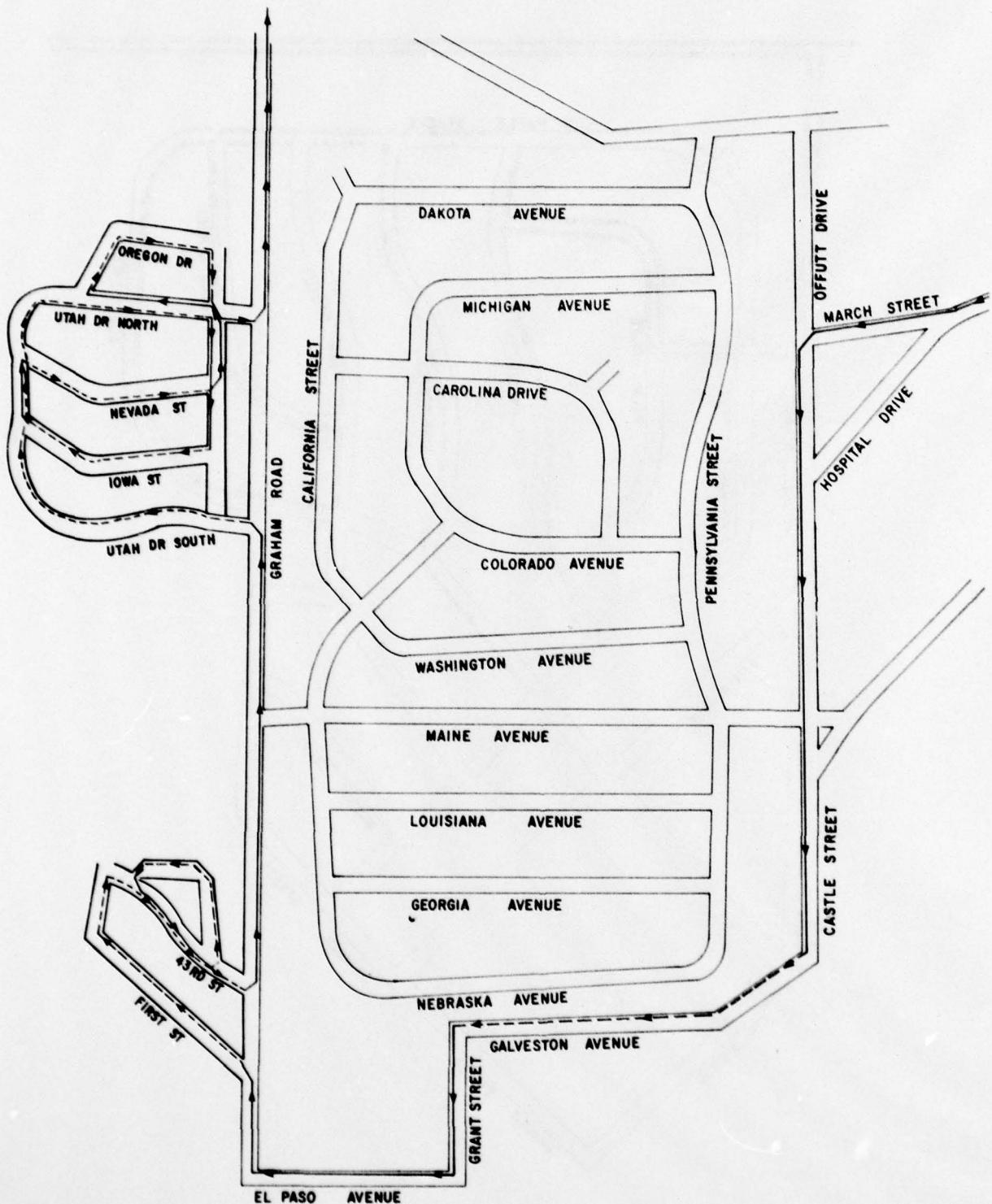
ROUTE 3 TRIP 2

10 CU YD VEHICLE

TRAVEL

COLLECT BOTH SIDES

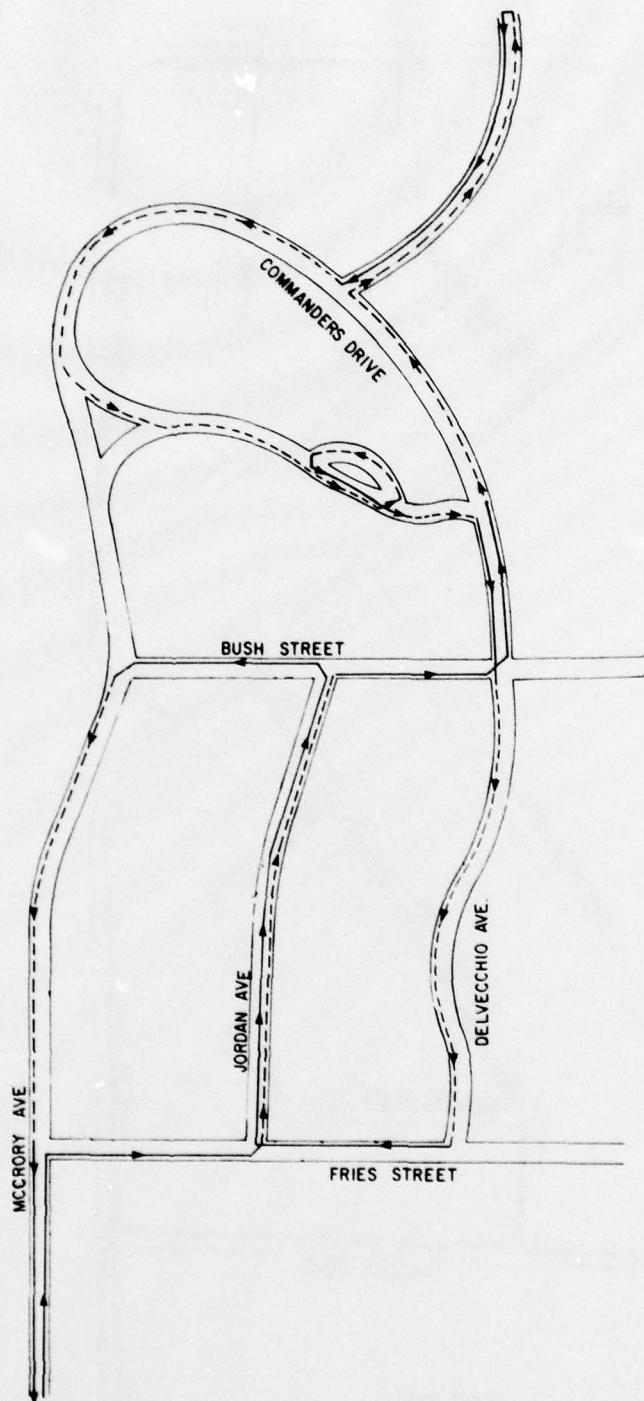
COLLECT RIGHT SIDE



FAIRCHILD AFB, WASH.

ROUTE 4 TRIP 1
10 CU YD VEHICLE

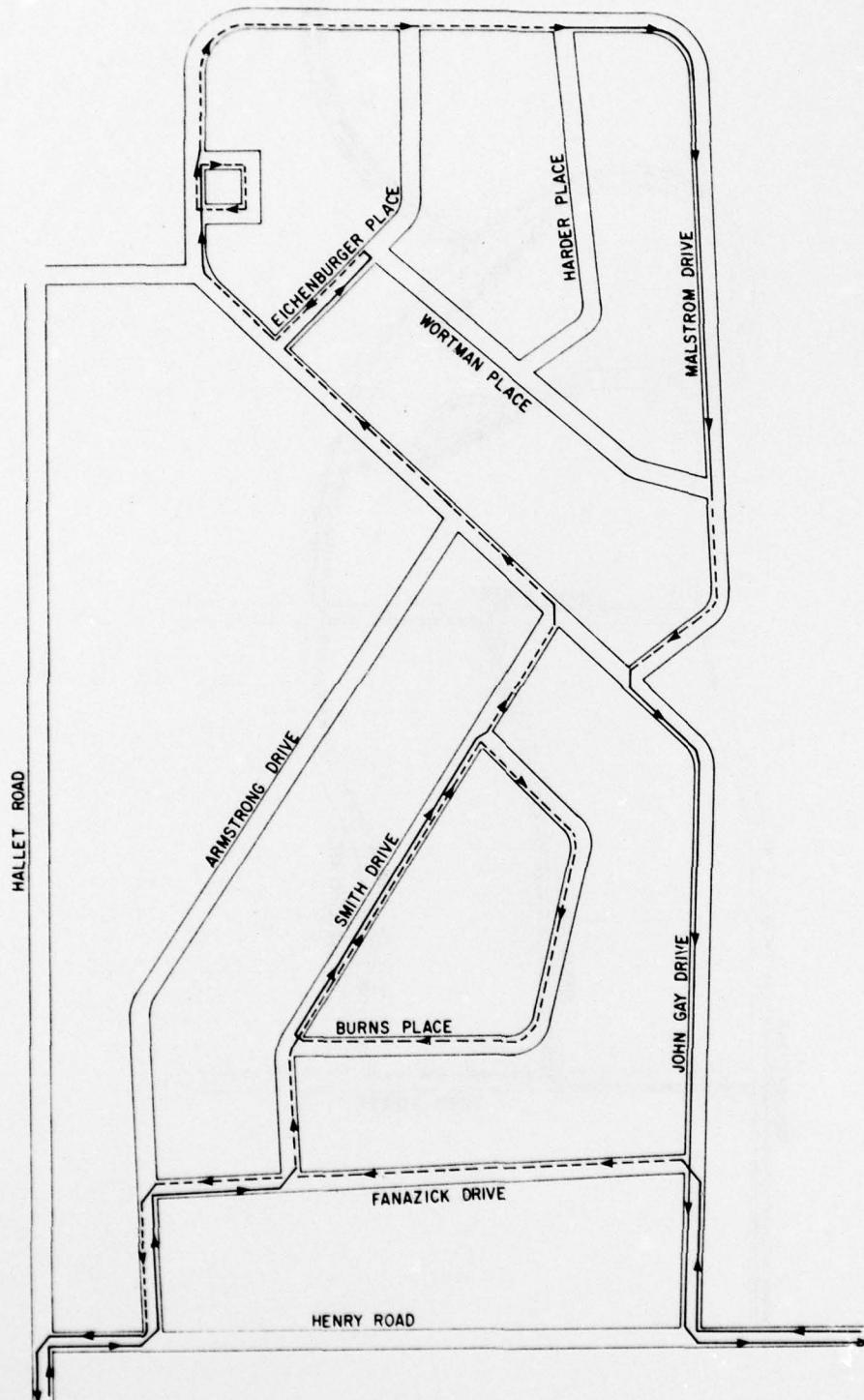
TRAVEL _____
COLLECT BOTH SIDES
COLLECT RIGHT SIDE



FAIRCHILD AFB, WASH.

ROUTE 4 TRIP 2
10 CU YD VEHICLE

TRAVEL
COLLECT BOTH SIDES
COLLECT RIGHT SIDE



FAIRCHILD AFB, WASH.

ROUTE 4 TRIP 2

10 CU YD VEHICLE

TRAVEL

COLLECT BOTH SIDES

COLLECT RIGHT SIDE

INITIAL DISTRIBUTION

Hq USAF/PREE	1	SAMSO/DEC	1
Hq USAF/PREVP	1	ADTC/CSV	1
Hq USAF/PREVX	1	ADTC/DLODL	1
Hq USAF/RDPS	2	AFFTC/DE	1
Hq USAF/SAFOI	1	AFETR/DER	1
Hq USAF/SGPA	1	ESD/DE	1
Hq COMD USAF/DEE	1	USAF Rgn Civ Engrg/ER	1
CINCAD/DEEV	2	USAF Rgn Civ Engrg/WR	1
CINCAD/DEECV	1	USAF Rgn Civ Engrg/CR	1
AFCS/DEEE	1	SAMMA/MAGCB	1
AFLC/DEPV	1	USAFSO/DEE	1
AFLC/MAUT	1	DDC/TCA	2
AFLC/MMRF	1	DR&E/AD/E&LS	1
AFSC/DE	1	OASD (1&L)/ES	1
AFSC/SD	1	USA Environ Hygn Agency	1
AFSC/DEV	1	Ch of Engrg/ENGMC-RD	1
AFSC/DLCAM	2	Dir, USA WW Exp Sta	1
ATC/DEPV	1	USA CERL	1
AAC/DEV	1	Dir, USA Engrg R&D Lab/MERDC	1
MAC/DEEE	1	Ch of R&D	
MAC/DEMP	1	Dept of the Army/DARD-ARE-E	1
CINCPACAF/DEMU	2	Ch of Naval Op	1
CINCSAC/DEPA	2	NESO, Code 25111	1
CINCSAC/DEVQ	1	NCEL, Code L08A	1
TAC/DE	1	Naval Ship R&D Ctr/Code 3021	1
TAC/DEEV	1	Technical Applications Ctr/UNM	1
USAFSS/DEE	1	Technology Transfer Staff/EPA	1
USAFSS/DEM	1	Office of R&D/EPA	1
CINCUSAFA/DEPV	2	National Science Foundation	1
AFISC/SES	1	US Army Med Bioengrg R&D Lab	1
AFRES/DEEE	1	Det 1 Hq ADTC/EC	1
USAFA/DEV	1	Det 1 Hq ADTC/ECW	4
3800 ABW/DEE	1	Det 1 Hq ADTC/PRL	1
AFIT/DEM	1	AFCEC/DE	1
AU/LDG	1	AFCEC/DEPV	2
AUL	1	SAF/MIQ	1
AFOSR	1	AFIT/Library	1
AFML/DO (Library)	1	USA Chief, R&D/EQ	1
OEHL/CC	1	USAFSAM/EDE	1
OEHL/OL-AA	1	1 MSEW	1
OEHL/OL-AB	1	OUSDRE	1
AFWL/SUL	1	USAF Hospital, Wiesbaden	1
AFRPL/Library	1	USN Chief, R&D/EQ	1
ASD/DEF	1		
RADC/DOT	1		
AEDC/DEE	1		
SAMTEC/SEH	1		